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October 2, 2015

To: Mayor Michael D. Antonovich
Supervisor Hilda Solis
Supervisor Mark Ridley-Thomas
Supervisor Sheila Kuehl
Supervisor Don Knabe

From: Richard Sanchez
Chief Information Officer

COUNTYWIDE DATA CENTER GOVERNANCE MODEL, AND FIVE-YEAR CONSOLIDATION ROADMAP

This is the second part of our response to the September 30, 2014, joint Board Motion by Supervisor Ridley-Thomas and Supervisor Don Knabe, wherein the Board directed the Chief Information Officer (CIO), in coordination with the Chief Executive Office (CEO) and Internal Services Department (ISD), to:

1. Identify and contract with, under an existing Master Services Agreement (MSA), an independent third-party agency or firm with a physical presence in the region that specializes in data center design and implementation in order to provide the Board of Supervisors with a written report within 120 days, with a comprehensive and realistic recommendation regarding the County's current requirements for total and raised floor space, power and utility needs for a data center. The recommended scope should:

    a. Reflect the replacement of ISD's Downey Data Center (DDC);

    b. Ensure that the same data center is ready to consolidate most of the County's 65 data centers; and

    c. Accommodate future growth and consolidation, factoring in virtualization and anticipated changes in data center and information technologies.

2. Instruct the CEO to contract with a second independent third-party agency or firm to assess and analyze the short and long-term financial, logistical, and operational impacts associated with acquiring, leasing, or constructing a data center that meets the needs defined above. The selected agency or firm should be experienced and familiar with California's building code requirements for data center design and construction, possess a deep and practiced understanding of the County's real estate market, and provide a recommendation of the most beneficial and cost effective option. The recommended scope should:

a. Consider the range of options to satisfy the County's needs including leasing, purchase, or construction of a new facility;

b. Identify a County site that will best accommodate current needs and future growth, if construction is recommended; and

c. Compare the benefits and drawbacks of constructing a new facility at the Rancho Los Amigos south campus versus another vacant site.

3. Adopt a policy direction to consolidate departmental data centers in a virtualized centralized model.

4. Instruct the CEO, CIO, ISD's Information Technology Services, and Departmental CIO's to form a committee and report back in writing to the Board within 90 days with a countywide consolidation policy, five-year consolidation roadmap, and an operations governance process for the new data center.

On November 12, 2014, your Board authorized the CEO to execute a Work Order with Gartner Consulting under the Strategic Planning MSA to:

1. Conduct an assessment of the DDC, the Local Recovery Center (LRC) and approximately 65 Departmental computing centers to document the computing requirements to support the development of a data center consolidation strategy.

2. Develop a data center consolidation strategy that takes into consideration the replacement of the DDC, consolidation of most of the County's approximately 65 departmental data centers, and industry best practices to accommodate growth and contemporary computing technologies.

On March 31, 2015, the CIO submitted the first part of the response to the Board Motion. That report outlined the County's Current State Assessment, Data Center Inventories, Data Center Assessments, Future State Vision, and Future State Requirements.

The current report is the second part of our response. This report outlines the Data Center Consolidation Strategy and Five-year Roadmap, and a recommended Governance Model for the new data center.

DATA CENTER GOVERNANCE MODEL

The recommended Governance Model is the result of an iterative process between the CIO, ISD, Departmental IT Leadership, and Gartner. The recommendation to adopt a "Transparent" Governance Model was developed using industry best practices, understanding current County processes and focusing on key County IT goals of Alignment and Agility, Value and Quality, and Transparency.

The Governance Model will be led by the Enterprise Data Center Steering Committee, comprised of Department CIOs elected from the CIO Council membership, to provide structured feedback from Customer Departments to ISD.

DATA CENTER CONSOLIDATION STRATEGY AND FIVE-YEAR ROADMAP

Over the past five years, the County has made strides in this area by reducing the number of data centers from 65 to 49. However, 24 departments continue to operate at least one data center, and additional consolidation is needed. Based on industry best practices, Gartner developed a recommended consolidation strategy. Some of the key points in the recommendation include:

- All County departments should fully consolidate into a virtualized, shared environment in the new primary data center, with very few exceptions.

- The CIO should work with the CEO and ISD to develop a departmental Migration Plan into the new data center, inclusive of funding. The migrating sequence for the departmental data centers will be developed based on specific criteria, such as size, quality, age, business needs of the department, technology refresh cycles, etc.

- Because of its mission criticality and aging infrastructure, the DDC should be the first data center to migrate to the new primary data center. Relocating the DDC and consolidating departmental data centers will require changes and upgrades to the Enterprise Network.

The detailed findings regarding the Data Center Consolidation Strategy and Roadmap and the Governance Model are documented in Gartner's Summary Report and Attachments F-G.

If you have any questions or require further information, please contact me or your staff may contact Peter Loo, Chief Deputy at 213.253.5627 or PLoo@cio.lacounty.gov.

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Attachments

c: Chief Executive Office
Internal Services Department

Report on LA County's Data Center Strategy

Data Center Consolidation Strategy (Part II)

September 30 2015

Gartner

Table of Contents

1.0 Background

1.1 Board Motion

In September of 2014, the Board of Supervisors adopted a multi-part motion, the third and fourth parts of which were to:

"Adopt a policy direction to consolidate departmental data centers in a virtualized, centralized model: and

Instruct the Chief Executive Officer, Chief Information Officer, and Internal Services Department's Information Technology Division to form a committee and report back to the Board within 90 days with a Countywide Consolidation policy, five-year consolidation roadmap, and an operations governance process for the new data center."

The CIO contracted with Gartner to develop a current state assessment and provide recommendations regarding the County's data centers. A previous report submitted by Gartner on March 30, 2015 provided the Current State Assessment and the Future State Requirements for the consolidated data center. This report addresses the Consolidation Strategy (serving as input into a consolidation decision), the five-year consolidation roadmap and operations governance model for the new data center.

2.0 Consolidation Strategy and Roadmap

2.1 Acquisitions Alternatives

As part of the Consolidation Strategy, Gartner sought to answer the following questions regarding the County's future alternatives for its primary and secondary data center.

1. Where should LA County's primary data center be located to minimize business risk? What are the tradeoffs involved in having multiple LA County data centers physically close to one another or far apart?
2. Should LA County continue to leverage LRC? How will the role of the secondary data center evolve in the future?

An analysis of the County's options, determined that it would be best served by acquiring (i.e. obtaining through one of the methods outlined below) a new primary data center in the LA Basin, developing a data bunker in Sacramento (currently underway) and considering relocating LRC to a leased Tier III facility outside of the disaster strike zone of the new primary facility sometime after the Downey replacement project is underway.

In replacing Downey, it was determined that the County has three main acquisition methods:

- Build a new facility (or buy if the opportunity arises).
- Rent space in a current co-location facility.
- Work with a co-location provider to build a new co-location space that is customized to the County's needs (lease to suit).

A subsequent section of the September Board Motion instructs the Chief Executive Officer (CEO), using the future state requirements provided in Part I of this report to the Board, to determine the best acquisition method and location for a new primary data center. The CEO will need to assess and analyze the short- and long-term financial, logistical and operational impacts associated with each of these options.

2.2 Strategic Recommendations

In order to form a consolidation strategy, Gartner identified a number of key questions that need to be answered (represented in the picture to the right). They are as follows:

- What should be consolidated? Should all departments be required to consolidate? Are there any exceptions? How should consolidation take place? Should all departments be required to consolidate into centralized, virtualized, shared services or can they maintain separate environments in the new primary data center?
- How will the consolidation be managed? What role will ISD, CIO, CEO and the departments play in the consolidations effort?
- How will it be funded? What funding should come from the Net County Cost funds, departments funds? Should any of the costs be included in ISD's chargeback?
- What related projects need to be completed in order for the consolidation to be successful?
- How will the consolidation be sequenced and executed? What criteria will be used to determine the sequence and who will be in charge of sequencing?
- What is the definition of success for the Data Center Consolidation Initiative?

Each of these questions (and associated sub-questions) were discussed in a workshop with the CIO and ISD. Based on the discussions, Gartner developed a set of recommendations related to each question.

The recommendations are as follows:

- **Full Consolidation into a new primary data center.**
    - All County departments should fully consolidate into a virtualized, shared environment (such as eCloud, pCloud[1], centralized VOIP services, etc.) in the new primary data center, with very few exceptions. Departments with less reliable data centers should continue to consolidate into Downey before the new data center is acquired.
    - Exceptions to consolidation should be based on:
        - Recent or existing investments in high quality (Tier III) data centers that can support departmental requirements over the next five years.
        - Business needs for key systems to be in data centers located in hardened emergency response or command centers. This would be granted on an application by application basis.

[1] Definition provided in Appendix of Attachment G

  - Exceptions to consolidating into a virtualized, shared environment could include:
    - Both CIO and ISD agree that the shared infrastructure is unable to meet specific departmental needs (i.e. service levels, regulatory requirements, technical requirements, etc.).
    - A true "apples to apples" cost comparison indicates the shared infrastructure is an inefficient use of County resources.
  - The board should provide clear direction around consolidation requirements and exceptions.

- **Establish a Data Center Consolidation Program Management Office.**
  - The CIO should work with ISD and the CEO to develop a Migration Plan. This should be based on expected consolidation inventories provided by the departments.
  - To develop and manage the migration plan, the CIO should establish a Data Center Consolidation Program Management Office (DCC PMO). The office will be responsible for planning and managing the departmental data center migrations. The funding for this office should be included in the migration expenses. The office should have representation from ISD, various departments and be composed of both internal and non-County, external resources (as needed).
  - A separate, ISD program management office should be established to acquire and build out the new Data Center and plan and manage the migration of ISD's Downey data center into the new facility.
  - Departments with at least one active data center should be responsible for developing their own migration plans under the oversight of the DCC PMO and in consultation with the ISD PMO.

- **Perform a readiness assessment to determine all necessary pre-requisite efforts for consolidation.**

  The efforts will include the following:
  - ISD needs to complete its pCloud and virtualized storage prior to migrating to the new data center. In addition to eCloud, this will provide the centralized, virtualized and shared environments into which departments can consolidate. ISD should also consider developing a hybrid cloud solution over time.
  - The County currently has two network hubs, one in Eastern and one at the data center at Downey. The Downey network hub will need to be moved to the new data center or another location as part of the migration. Proximity to the second network hub (currently at Eastern Ave) should be considered when selecting the location for the new facility. The network hubs should not be in close proximity to each other since a local disaster could impact both locations if they are in close proximity.
  - Moving the Downey data center and consolidating departmental data centers will require changes and upgrades to the Enterprise Network. ISD should conduct a network capacity assessment to determine the needed changes, funding and timeframe.

- **Establish a data center migration sequence that begins with Downey.**

  - Due to its aging infrastructure and inadequate resiliency, the County's primary data center at Downey should be the first data center to migrate to the new primary data center.
  - The DCC PMO should determine a migration sequence for the departmental data centers. The size, quality and age of the data center, timing of current lease agreements, business needs of the departments, and opportunities to take advantage of hardware lifecycle investments should all be considered in determining the sequencing.
  - CIO and ISD must develop minimum standards for determining which equipment will be replaced vs. relocated during the migration to the new facility.

- **Centralized funding should be used along with departmental funding to fund the migration.**
  - The Data Center migration should use both departmental & centralized funding sources with departments generally being responsible for migrating their own data center. Additionally, where possible, normal equipment and software lifecycle management expenditures should be accelerated or delayed in order to reduce net incremental migration costs.
  - Centralized funding should be provided for infrastructure with enterprise-wide benefits, including:
    - Establishing and operating the DCC PMO.
    - Annual lease cost of the new data center and transition costs of operating two data centers.
    - Reconfiguring the Enterprise Network to support the data center migration.
    - Acquiring and the new data center and core IT infrastructure.
    - Migrating Systems in Downey to the new data center.
- Exact funding needs will be determined during the development of the Migration Plan.
- The County's primary criteria for success should be:
  - Migrating out of ISD Downey into a Tier III primary facility by December 2017.
  - Consolidating and decommissioning all departmental data centers into centralized, virtualized and shared infrastructure with minimal exceptions, by January 2020.

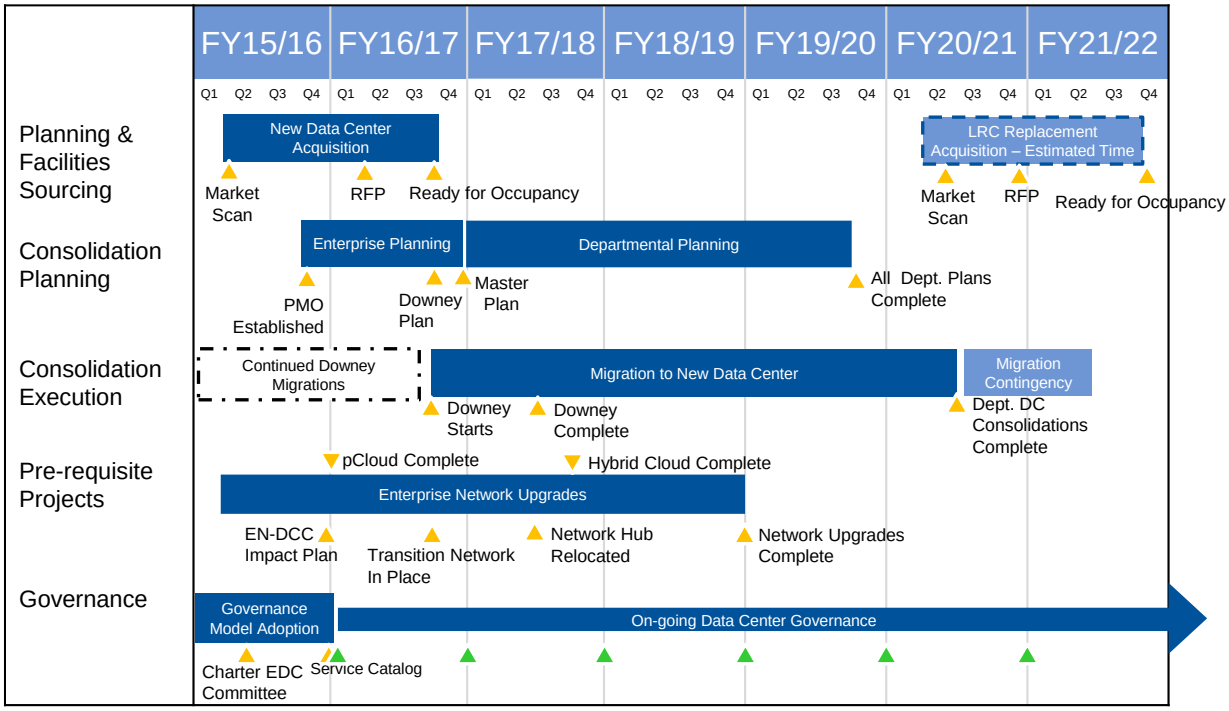
2.3 Consolidation Roadmap

Gartner developed a roadmap for the County's future data center activities based on the following assumptions:

- The County's primary goal is to replace ISD's Downey data center as soon as possible.
- The County wants to complete the consolidation of the IT components contained in 47 department data centers into the new Primary data center within the next 5 years.
- The County will seek to rent space in an existing commercial data center co-location facility for its new primary data center.

- The new governance model will be adopted and the Enterprise Data Center steering committee will be chartered by December 2015.
- DCC strategic and funding decisions will be complete by March 2016.
- The County will be able to end its contract with Orange County for LRC once the consolidation is complete and select a new recovery center, if necessary.

Based on these assumptions, the County's seven year roadmap would be:



For details related to the roadmap, including project descriptions for each work stream, refer to Attachment G.

3.0 Governance Model

3.1 Methodology

In determining the appropriate governance structure for the County's new primary data center, Gartner focused on leveraging existing research and knowledge of industry best practices as well as the knowledge gained during this engagement to determine an appropriate governance model that would meet LA County's specific needs. To do that, Gartner used the following methodology:

- Establish a common understanding of key terms, scope and goals for the Enterprise Data Center governance structure.
- Document the range of potential governance models based on Gartner Research and best practice examples in jurisdictions comparable to LA County.
- Conducted interactive workshops with the CIO Leadership Council to review available governance models and selected an initial option for further refinement.

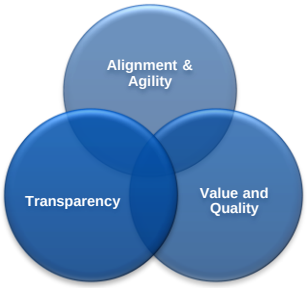
- Further refined and built out the selected governance model by establishing a set of roles and responsibilities as well as rules of operations.
- Conducted a second interactive to review the refined governance model and develop an implementation roadmap.

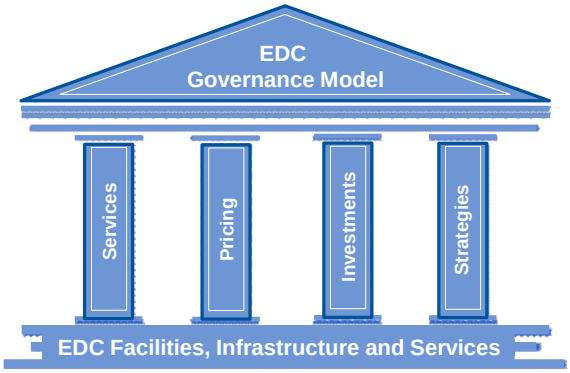
3.2 Key Goals and Guiding Principles

The CIO Leadership Council defined three (3) key goals for the Governance Process:

- **Alignment & Agility:** Ensure that Enterprise Data Center service offerings, investment plans and strategies are aligned with department/customer needs, overall County IT strategic direction, industry trends and best practices and that the business can rapidly respond to change by adapting in an evolving environment.
- **Value and Quality:** Promote the standardization, consolidation and quality of data center services (e.g. eCloud, email, server, storage, mainframe etc.). Ensure responsive customer service, consistent delivery and competitive pricing that maximizes value to customers.
- **Transparency:** Provide insight into data center service offerings and pricing. Independently benchmark these prices and associated service levels with similar organizations and with the commercial marketplace.

EDC Governance Goals



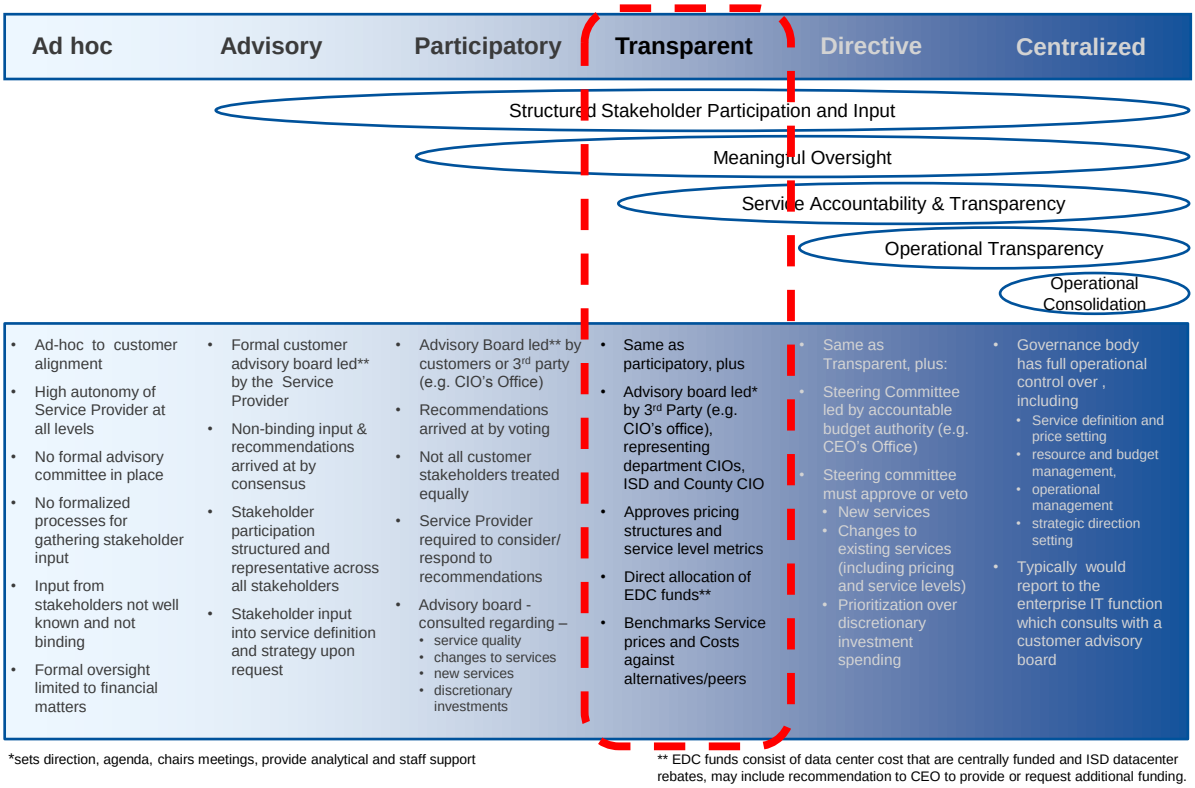


Additionally, the CIO Leadership Council defined a set of guiding principles:

- **Be simple and direct:** The governance model must outline clear roles and responsibilities and leave no room for ambiguity.
- **Evolve over time:** The governance model should allow for continuous improvement and operational efficiency over time.
- **Address three (3) critical aspects:**
  - Service delivery
  - Innovation / demand management
  - Price and value transparency
- **Include all stakeholders and balance their decision rights:** The governance model must have membership criteria that spans across several Departments and functions to allow for a full understanding of everyone's needs.
- **Be scalable and extensible:** The model must allow for growth and flexibility in the services provided as customer needs change and evolve.

3.3 The EDC Governance Model

Based on Gartner research and knowledge of industry best practices, there is a continuum of Governance Structures, ranging from ad hoc, with no formal advisory committees or processes for stakeholder input, to centralized, where the governance body has full operational control (see graphic below full continuum). This spectrum does not represent a maturity model, but a range of acceptable options depending on an organizations specific needs. Based on discussions with the CIO Council, the County has decided on the "Transparent" model.



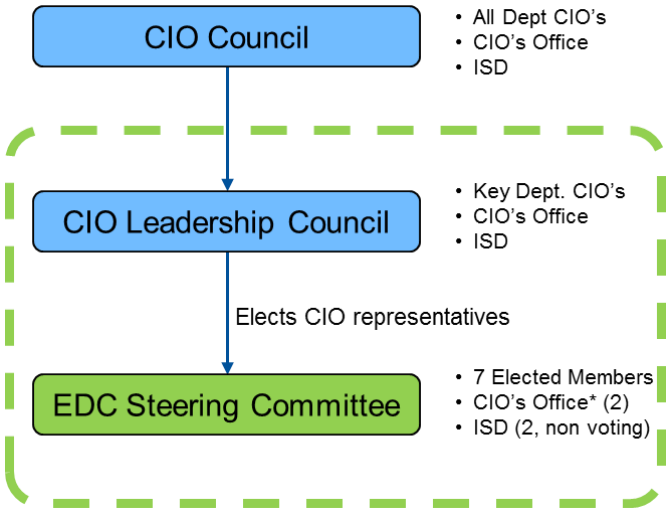
The transparency model includes the following:

- **An Enterprise Data Center Steering Committee (EDC-SC):** An independent, formal advisory council representing all ISD customers that provides non-binding recommendations prioritized by, and arrived at through, a voting process. This committee will be chaired by the County CIO, who will set the direction and agenda. It will also have seven (7) members elected by the CIO Leadership Council. The EDC-SC focuses on gathering and providing stakeholder feedback on service attributes (such as definitions, pricing, ordering and provisioning process, etc.).
- **An Annual Benchmark:** CIO's Office and ISD will jointly conduct an annual, independent benchmark of Enterprise Data Center services in order to compare services, costs and service levels with those provided by external vendors and peer organizations of similar size and complexity. The results of the benchmark will be shared with the EDC-SC, CIO Council CEO's office, and the Board Deputies, as needed.
- **A Service Portfolio and Catalog:** A new service portfolio and catalog, using ISD's current service portfolio and catalog definitions as the baseline, will be created to clearly describe the services governed by the EDC. These will include service levels and reporting metrics for key services.

3.4 The EDC Steering Committee

The EDC Steering Committee will be a subgroup to the CIO Leadership Council and seamlessly integrate with the County's existing IT governance structure. The purpose of the EDC Steering Committee is threefold:

- Be a primary source of structured input and feedback on EDC-SC related services from Customer Departments to ISD.
- Provide a collective forum where ISD service, cost and responsiveness issues can be escalated and discussed.
- Discuss and recommend exceptions, changes to EDC-SC and funding issues to the CEO and Board of Supervisors



Key responsibilities of the EDC Steering Committee include:

- Review and provide input on planned EDC service changes and/or new services proposed by ISD.
- Identify and prioritize customer department EDC services "needs and wants", discuss with ISD leadership and provide direction through a vote.
- Review planned EDC investments proposed by ISD and provide input on priorities.
- Provides direction on allocation of enterprise provided funds to specific projects and services through a binding voting process.
- Review ISD provided service delivery reports and collectively discuss major customer incidents/issues with ISD leadership.
- Review and discuss the results of the annual EDC benchmark process.
- Discuss requests by departments for exemptions from the Board's EDC consolidation mandate and forward recommendations to the Board.

A RACI Chart was developed to outline the future state roles and responsibilities of the EDC, ISD, the CIO's office, and various IT departments.

Description	EDC-SC[1]	ISD	CIO's Office	Dept's[2]
Determine Overall County IT Strategy	C	C	A,R	C
Determine what EDC Services to Use		I	C	A,R
Deliver EDC Services		A,R	C	I
Define/Change EDC Services	A	R	C	I
Define Functions supporting EDC Service Delivery	C	A,R	C	I
Monitor EDC Service Performance	C	A,R	C	I
Define/Prioritize EDC discretionary Investments	A	R	C	I
Direct Allocation of EDC funding[3]	A,R	C	C	I
Approve EDC Mandate Exemptions[4]	C	I	R	I
3rd Party Benchmark EDC Services	C	C	A,R	I

[1] EDC Steering Committee (SC) – compilation of members elected from the CIO Council

[2] The Departments are consulted through various other channels, including CIO Council, CIO Leadership Council, and throughout their department leadership / peers, etc.

[3] ISD has administrative responsibility for EDC funds

[4] The Board is Accountable for approving exceptions

R = Responsible **C** = Consulted
A = Accountable **I** = Informed
(see definitions in Appendix)

This RACI matrix will be further defined within the EDC-SC charter.

3.5 Annual Benchmarking Process

CIO's Office and ISD will jointly conduct an annual, independent benchmark of EDC services in order to compare services, costs and service levels with those provided by external vendors and peer organizations of similar size and complexity.

The results of the benchmark will be shared with the EDC-SC, CIO Council CEO's office, and the appropriate Board Deputies as needed.

CIO and ISD will establish repeatable Benchmark methodology and process to include:

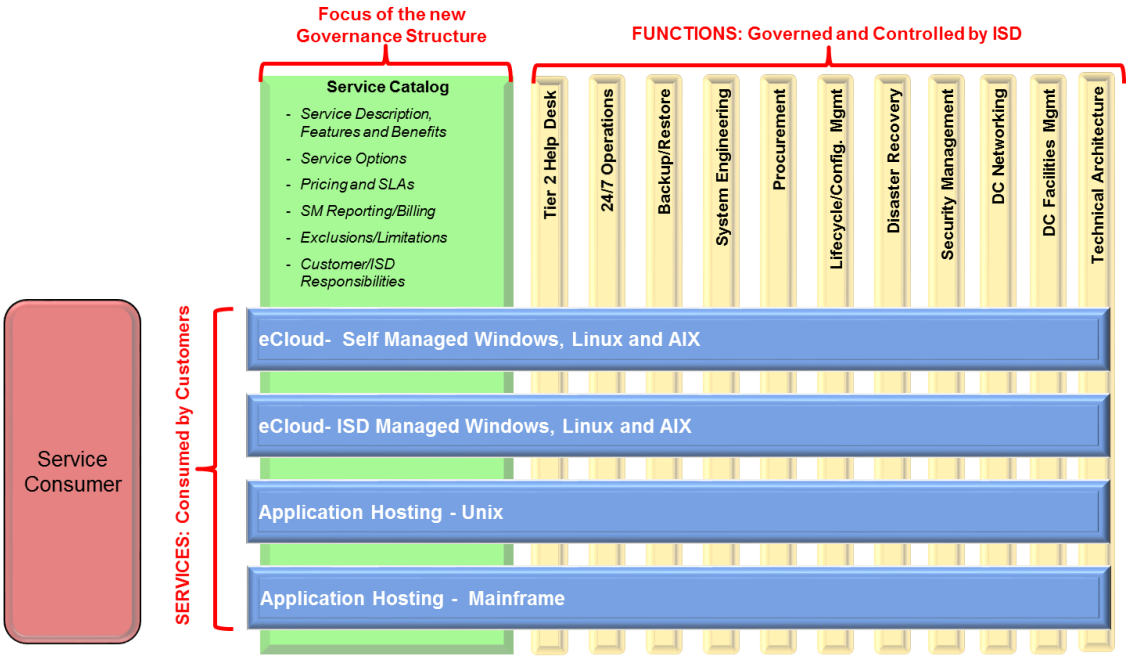
- Customer satisfaction measurement
- Service price comparison
- Service delivery cost comparison

Jointly, CIO and ISD will:

- Determine scope and focus of annual benchmark (may happen in consultation with the EDC-SC).
- Hire a 3rd-party to conduct the benchmark and direct benchmark activities.
- Receive, review and summarize benchmark result.
- Provide EDC-SC and ISD with recommendations on service and cost/price optimization.
- Determine the need for centralized funding for specific services and establish the amount, guidelines (e.g. sunset dates for seed funding).

3.6 Service Portfolio and Catalog

While the EDC Steering Committee will have a mandatory advisory function related to the attributes of services (i.e. Service Features, Options, Service Level Agreements, Pricing etc.), ISD will retain full control over the Service Functions (i.e. how the services are delivered). The figure below illustrates this division of responsibilities.



To establish full clarity around the service offerings, options and service levels of EDC services provided by ISD, a Service portfolio and catalog will need to be developed.

4.0 Attachments

4.1 Attachment F – Governance Model

4.2 Attachment G – Data Center Consolidation Strategy and Roadmap

Report on LA County's Data Center Strategy Governance Model, Strategy and Roadmap

Governance Model

Attachment F – Governance Model

September 30, 2015

Prepared for

GARTNER CONSULTING
Engagement: 330025627 Version #5

Gartner

Table of Content

Background

- In a joint motion by Supervisors Mark Ridley-Thomas and Don Knabe, adopted by the Board of Supervisors in September 2014, the Los Angeles County Chief Information Officer (CIO) was instructed, in consultation with Internal Services Department (ISD), to contract with a vendor to provide the Board of Supervisors a written report, with a **current, comprehensive, and realistic recommendation of the County's requirements for a consolidated data center**.
- The CIO, in consultation with ISD, has engaged Gartner Consulting to conduct a current state assessment of LA County's existing data centers and make recommendations for the County's future data center needs.
- The four objectives of this effort are to:
  1. Evaluate options for replacement of ISD's Downey Data Center and analyze Data Center strategy alternatives available to the County;
  2. Ensure that the strategy can accommodate consolidation of most of the County's 49 current data centers;
  3. Accommodate future growth, factoring in virtualization, anticipated changes in information technologies, continuity of operations, and industry best practices; and
  4. Develop an operations governance process for the new data center.
- This document addresses the forth objective of the motion, the Data Center Governance Model.

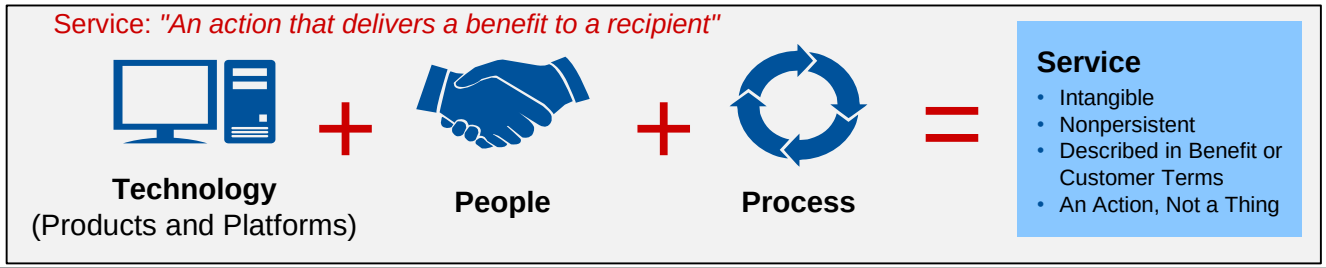
Approach and Methodology

- **Approach:**
  - Gartner's approach focused on leveraging existing research and knowledge of industry best practices as well as the knowledge gained during this engagement to determine an appropriate governance model that would meet LA County's specific needs.

- **Methodology**:
  - Established a common understanding of key terms, scope and goals for the Enterprise Data Center (EDC) governance structure.
  - Documented a range of potential governance models based on Gartner Research and best practice examples in jurisdictions comparable to LA County.
  - Conducted interactive workshops with the CIO Leadership Committee to review available governance models and selected an initial option for further refinement.
  - Further refined and built out the selected governance model by establishing a set of roles and responsibilities as well as rules of operations.
  - Conducted a second interactive workshop to review the refined governance model with the CIO Leadership Committee and develop an implementation roadmap.

The Governance Model is based on the understanding of key terms related to Governance and Service Delivery

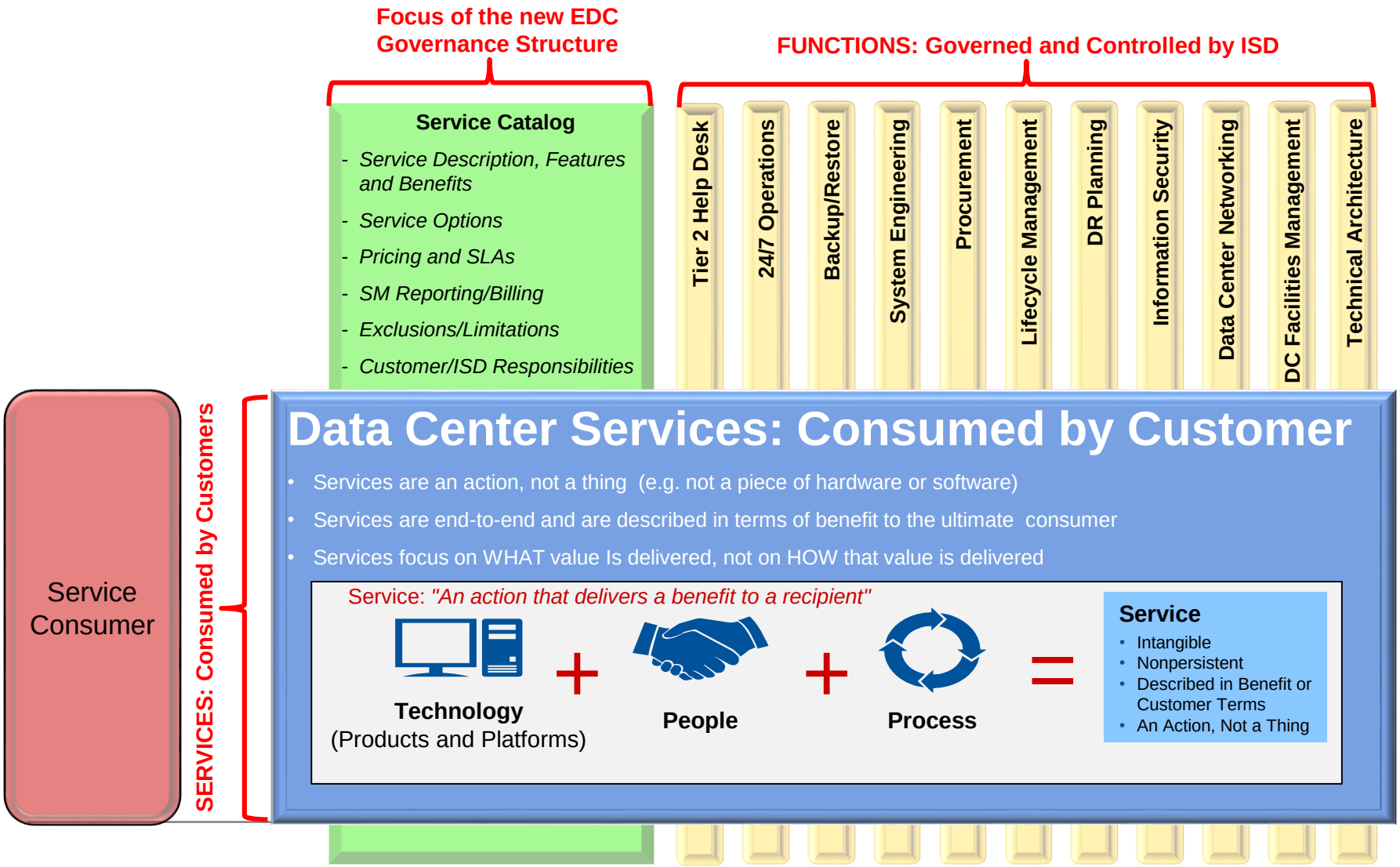
- **Enterprise Data Center (EDC)** – The County's data center operated and controlled by ISD into which, per Board direction, most current data centers will be consolidated.
- **Data Center Consolidation** – Moving all data center related services (e.g. physical servers, virtual servers, data storage & back-up) to a high quality, centralized and shared County data center facility.
- **Data Center Service** – A business service offering provided from the EDC that includes all core and ancillary services to be of value to the client.
- **Data Center Shared Service** – A data center shared service is defined as a service provided using a common infrastructure across multiple customer departments.
- **Operating Model –** How resources (e.g. financial, human, vendor, IT assets) are acquired, organized, deployed and managed in order to deliver services.
- **Governance** – processes and structure to define ***what*** decisions need to be made (domains), ***who*** has decision and input rights (roles) and ***how*** decisions formed and enacted (tools and structures).



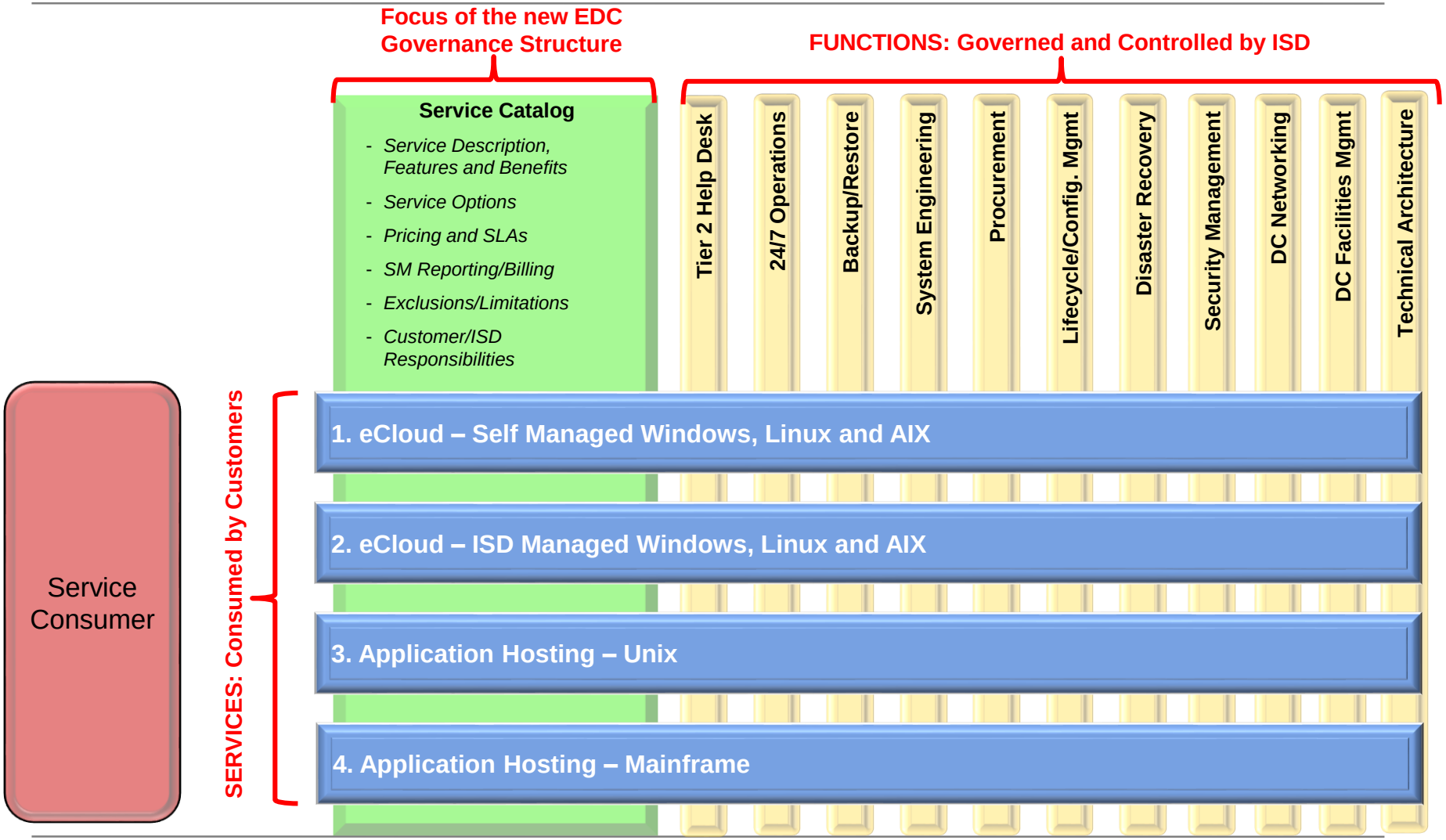
Distinguishing between Operating Model and Governance clarifies the Roles and Responsibilities for EDC Service Delivery

- Operating Model
  - How resources (e.g. financial, human, IT assets) are acquired, organized, deployed and managed.
    - Who reports to whom. Who has what budgets. Who does what in the service delivery life cycle.
    - How are resources organized? What are technologies used? How are services delivered?
  - Current Operating Model Example for ISD Downey
    - ISD:
      - Operates the Downey facility, including supporting services (i.e. Network Operating Center (NOC), facilities management, engineering, & etc.).
      - Operates key Shared Data Center services (i.e. mainframe, eCloud, pCloud, etc.).
      - Hosts department equipment at Downey and in some cases manages it for the departments.
    - Departments:
      - Subscribe to Downey Services provided by ISD and may continue to self-manage some existing departmental hardware and software assets in Downey .
- Governance in the context of EDC services
  - How strategic direction for shared services is set - including who provides input, makes decisions, vetoes or opts out of decisions & etc.
  - How information and how much information is shared, with whom, and in what timeframes and forum (e.g. results, problems, performance, costs, challenges, etc.).
  - How investments to build new services or improve existing services, are prioritized and allocated.

The new Governance Structure focuses on the EDC Service Attributes, while ISD will continue to be solely responsible for the Functions of a Service



Initially, the EDC Service Catalog will be comprised of four Core Services



The EDC Governance Process will focus on determining the attributes of each EDC service

- Attributes of Services
  - Service definition and features, including future direction and strategies
  - Service flavors and options
    - Gold, Silver, Bronze, etc.
    - Type of service (Unix, windows, etc.)
  - Customer vs. Service provider responsibilities
  - Compatibility and usage requirements
  - Ordering and provisioning process and time frames
  - Service levels, including availability, performance, response to incident, support hours, & etc.
  - Service pricing (e.g. one-time, ongoing)
  - Service delivery architecture
  - Sourcing of Data Center Services Functions

- Examples of EDC Services in LA County
  - eCloud Services
    - Linux
    - Windows
  - Storage and Backup Services
  - Physical Server Hosting
    - Unix
    - Linux
    - Windows
  - Mainframe Application Hosting
  - Disaster Recovery Services
  - Data Center Colocation services

To set the foundation for the Governance Model, the CIO Leadership Committee defined Key Goals for LA County Enterprise Data Center Governance Process

1. **Alignment & Agility**

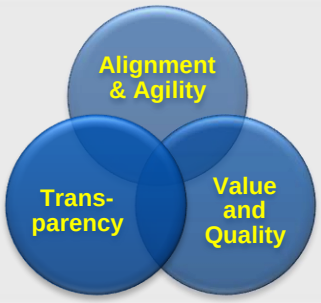
   Ensure that Enterprise Data Center service offerings, investment plans and strategies are **aligned with department/customer needs**, overall County IT strategic direction, industry trends and best practices and that these services can **rapidly evolve to meet new business or technology needs.**

2. **Value and Quality**

   Promote the standardization, consolidation and quality of data center services (e.g. eCloud, email, server, storage, mainframe etc.). Ensure **responsive customer service, consistent delivery and competitive pricing** that maximizes value to customers.

3. **Transparency**

   Provide **insight** into data center **service offerings and pricing**. Independently benchmark these prices and associated service levels with similar organizations and with the commercial marketplace.



- High level of customer satisfaction
- Fair pricing for provider and customer
- Consistent and high quality service delivery

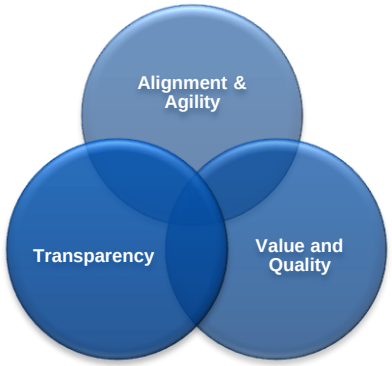
All County Stakeholders will benefit from improved Data Center Governance

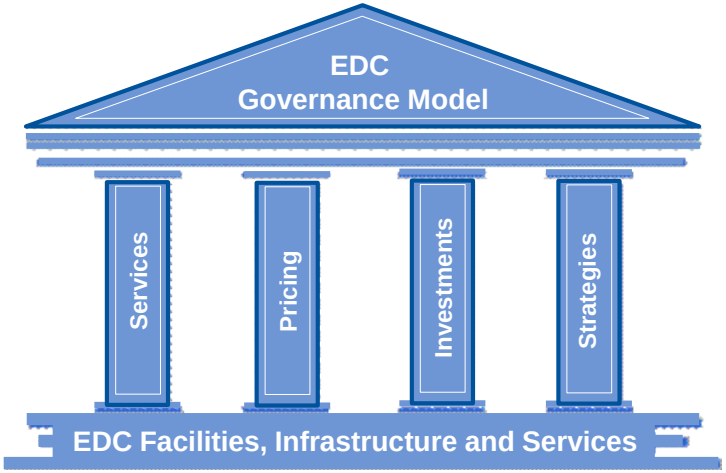
Board/CEO	Departments	ISD	CIO
✓ Lower security and disaster recovery risks ✓ All departments provided with consistent and high quality data centers ✓ Lower overall County IT costs due to economies of scale ✓ Lower departmental resistance to data center consolidation ✓ Avoid further investments in sub-standard DC facilities ✓ Improved insight into ISD service pricing	✓ Lower disaster recovery risks and/or costs ✓ More predictable services and pricing ✓ Capability to focus on departmental business needs (out of the commodity DC business) ✓ Input into the development and evolution of services, including prioritization of EDC investments ✓ Collective method for holding ISD accountable for service levels and responsiveness ✓ Ability to understand how EDC services and pricing align with peer organizations and outside service providers	✓ Improved understanding of current and future customer needs ✓ Better insight into customer perception of services delivered ✓ More demand for DC capacity along with a more predictable growth pattern ✓ Improved ability to communicate cost **AND VALUE** proposition to customer departments ✓ Opportunity to adjust cost allocation methodologies and consider centralized funding investment opportunities	✓ Use of EDC can unlock additional consolidation or standardization opportunities ✓ Increased capability to implement enterprise initiatives ✓ Leadership opportunity to bring Departments and ISD together collaboratively ✓ Consolidated spending can improve leverage with key vendors

The CIO Leadership Counsel also defined a set of Guiding Principles for the EDC Governance Model

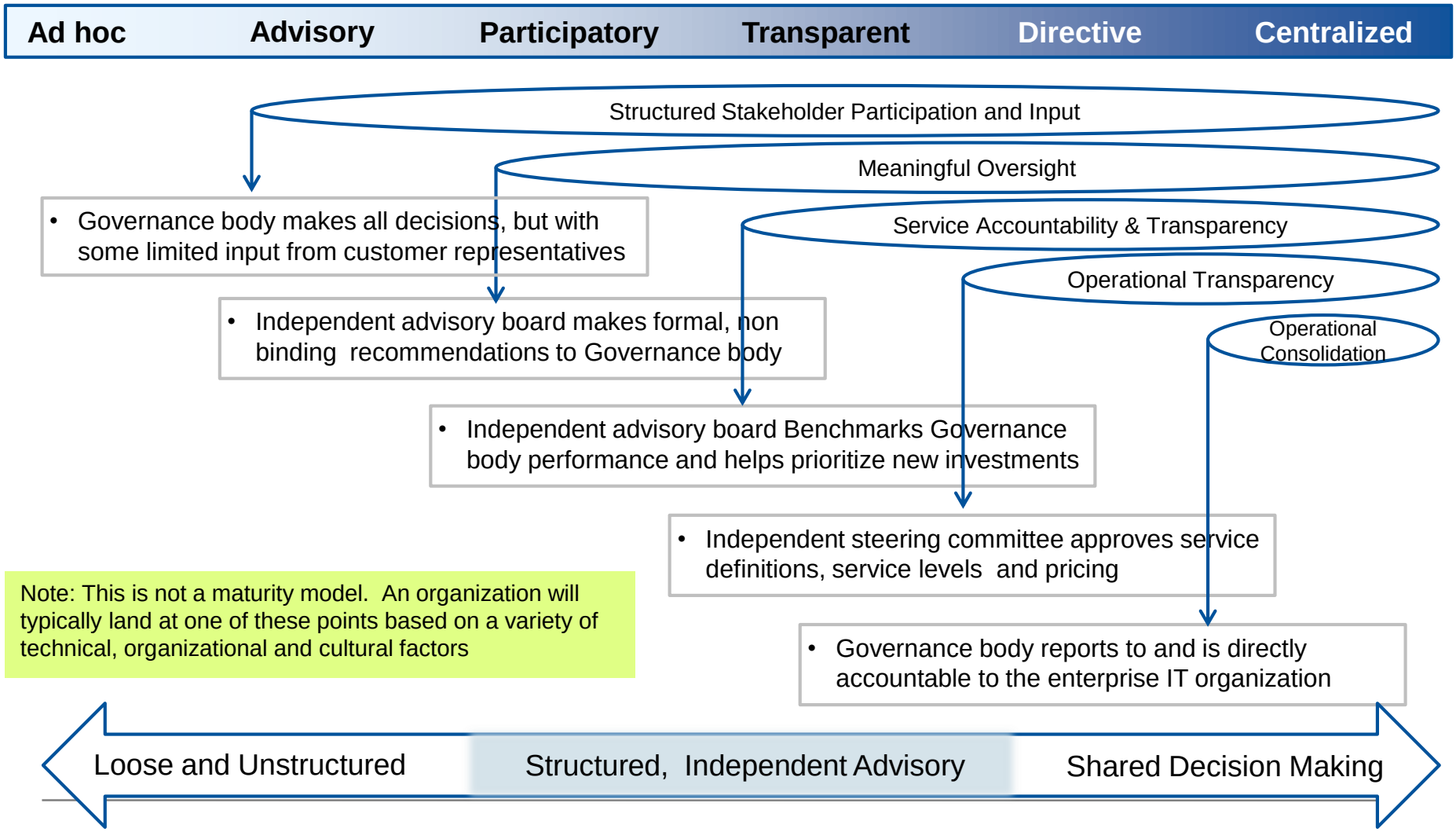
1. Be simple and direct
   - Outline clear roles / responsibilities
2. Evolve over time
   - Allow for continuous improvement and operational efficiency
3. Address three (3) critical aspects
   1. Service delivery
   2. Innovation / demand management
   3. Price and value transparency
4. Include all stakeholders and balance their decision rights
   - Develop membership criteria that spans across several Departments and functions
5. Be scalable and extensible
   - Allow for growth and flexibility in the services provided

EDC Governance Goals

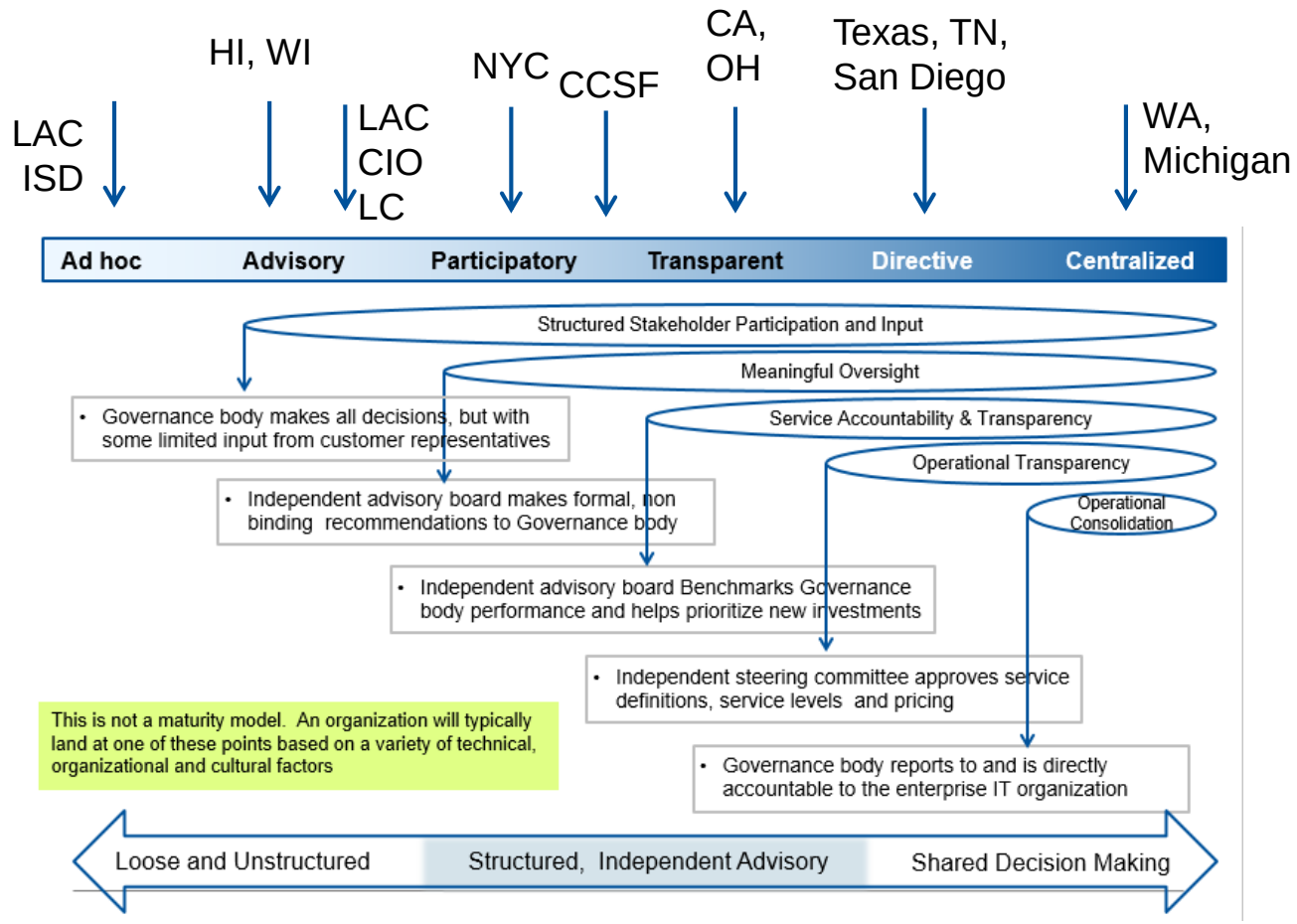




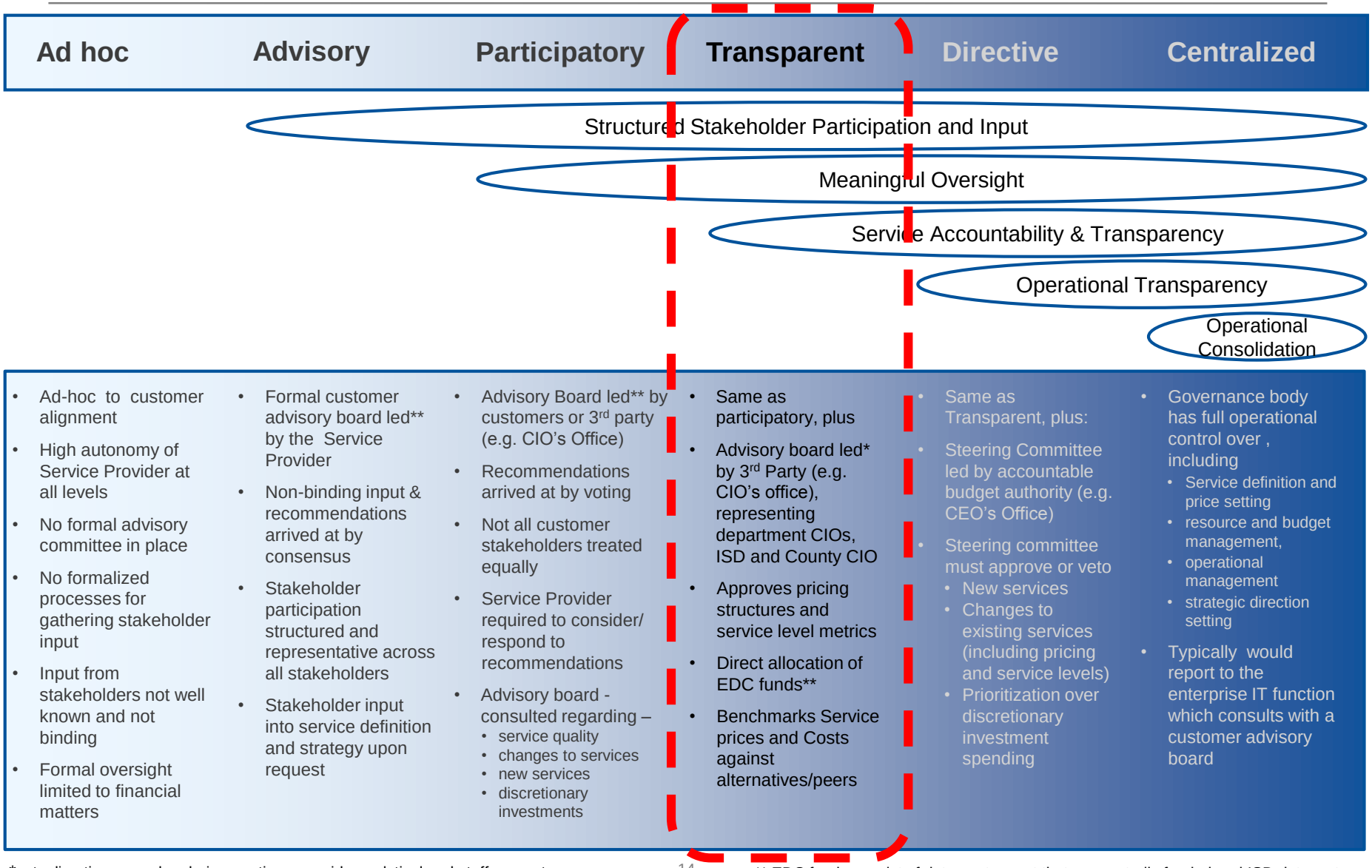
Gartner considered a continuum of Enterprise Shared Services Governance Structures in creating a customized model



Gartner reviewed Governance Model examples of similar organizations across the U.S. – they cover a broad range of the Governance Continuum



Gartner recommends that LA County adopt the "Transparent" Governance Model for the EDC



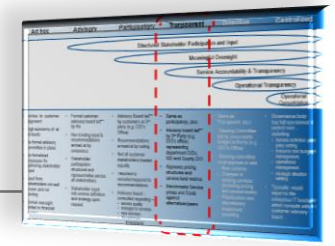
*sets direction, agenda, chairs meetings, provide analytical and staff support

** EDC funds consist of data center cost that are centrally funded and ISD datacenter rebates, may include recommendation to CEO to provide or request additional funding.

The “Transparent” Governance Model Option aligns with the Key Goals the CIO Leadership Committee defined for the EDC Governance Model

Key Goals	How the “Transparent” Governance Model addresses the Key Goals
Alignment & Agility	This model has the highest level of stakeholder influence while ISD remains fully accountable for the services that they provide to its customers.
Value and Quality	This model provides formal mechanisms for customer departments to provide collective feedback (on both new and existing services) to which ISD must respond. This model provides a mechanism for departments to work through an exemption process if the collective customer community agrees that their needs are not and cannot be met. This model ensures that funding for new and changes to existing datacenter services is aligned with customer needs.
Transparency	This model provides a mechanism for obtaining independent assessments of the quality and cost effectiveness of ISD's services when compared to other internal and external providers.

The “Transparent” Governance Model Option aligns with the Key Goals and Guiding Principles



Guiding Principles	How the “Transparent” Governance adheres to the Guiding Principles
Be simple and direct	This model leverages the existing County IT Governance structure and ISD Operating Model, introduces effective oversight while keeping clear distinctions in responsibility.
Evolve over time	While meeting the needs of governing EDC services, this model allows for change and expansion as the needs of the customers change, new political mandates are introduced or new services are added to the EDC portfolio.
Address 3 critical aspects **1. Service Delivery** **2. Innovation** **3. Price and value transparency**	The “Transparent” Governance Model address these 3 aspects by providing insight into the service offerings and pricing, as well as opportunities for customers to provide feedback and request additional services as needed.
Include all stakeholders	Gives all stakeholders an opportunity to provide input into the process through the existing County IT Governance process (CIO Council and CIO Leadership Committee).
Be scalable and extensible	Provides opportunity for growth and flexibility based on changing customer needs as well as new EDC services added.

The “Transparent” Governance Model Option provides oversight of EDC services by the departmental and County CIOs through a formal EDC Steering Committee

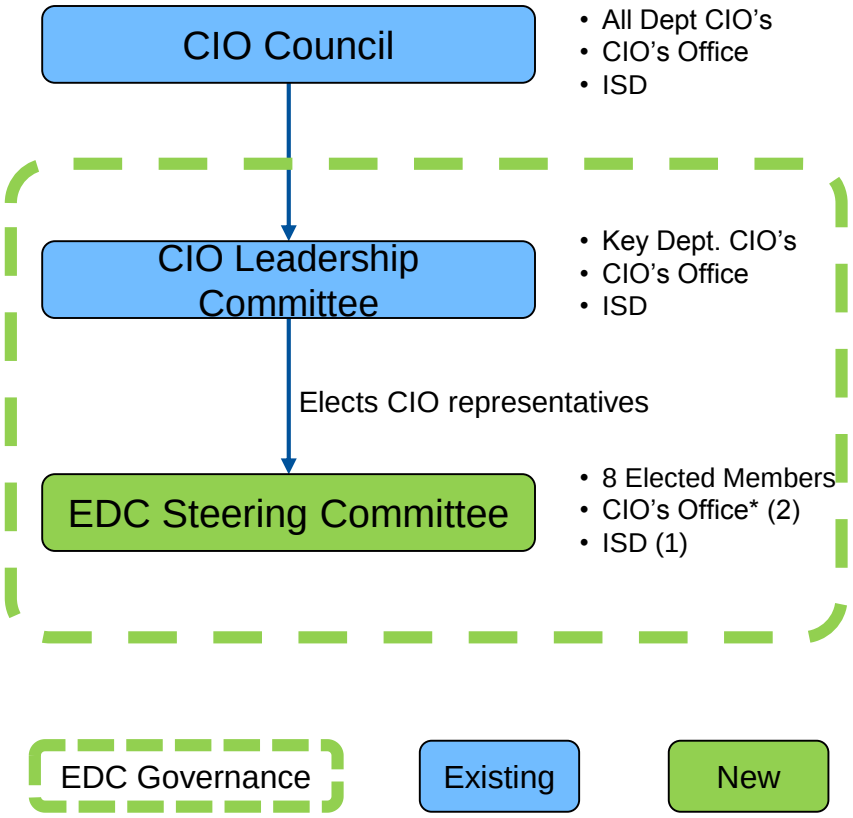
Model Attributes	How these attributes will look in the Transparent Model
Key Roles for EDC Steering Committee	• Forms an independent, formal advisory committee representing all EDC customers. • Provides collective direction on new services, service changes and discretionary investments* prioritized by and arrived at through a voting process. • Provides direction on allocation of EDC funds to specific projects and services through a binding voting process. • Provides EDC budget recommendations • A 3rd party vendor will benchmark the EDC’s service prices and costs and compare them externally.
Key Participants	• County CIO**, Department CIO’s & ISD • 3rd Party Benchmark Organization (for annual benchmark only) • 3rd Party facilitator (optional, may be required initially)
Scope of Oversight	• EDC Services definition and delivery options • Service Pricing structures • Service price and service level reasonableness • Prioritization of discretionary investments including centralized funding (i.e. proposed use of ISD rebates)
Governance Body Role and Powers	• Provide solicited and unsolicited collective input to ISD through an independent and structured process • Recommend investment priorities • Review Service Level Data and Benchmark Service prices

* Discretionary investments consist of data center cost that are centrally funded and ISD datacenter rebates, may include recommendation to CEO to provide or request additional funding, may include recommendation to CEO to provide or request additional funding.

**Committee Chair

Gartner

The “Transparent” Governance Model will Leverage the existing IT Governance Framework the County has established



	Members	Responsibilities	Rules of Operation
CIO Council	• All Dept CIO’s • CIO’s Office • ISD	• Communication and discussion of key County IT initiatives, priorities and policies.	• The chair sets the direction, agenda, sends out invites and is responsible for meeting logistics (rooms, meeting materials, minutes, etc.). • Decisions are made by majority vote. • Membership of EDC-SC** is open to all CIO Council members. • EDC-SC will meet at least every other month. • Any customer can file a complaint to the EDC-SC. The EDC-SC will then investigate and decide on action. A formal complaints process, including what minimal information will ensure that this is a fair and meaningful process. • The EDC-SC will brief the CIO Leadership Committee after each meeting on decisions.
CIO Leadership Committee	• Key Dept. CIO’s • CIO’s Office • ISD	• Communication and discussion of key County IT initiatives, priorities and policies.	
EDC Steering Committee	• 8 Elected Members • CIO’s Office* (2) • ISD (1)	• Receive, review and discuss plans for new or upgraded services. • Review planned investments and provide input on priorities. • Receive and review ISD service reports and key service issues from customers. • Review annual benchmark findings.	

* Committee Chair
** EDC-SC: Enterprise Data Center Steering Committee

High Level Governance Agreement for the EDC Steering Committee (EDC-SC)

Purpose

- Primary source of structured input and feedback on EDC-SC related services from Customer Departments to ISD.
- Collective forum where ISD service, cost and responsiveness issues can be escalated and discussed.
- Discuss and recommend exceptions, changes to EDC-SC and funding issues to the Board of Supervisors.

Key Activities and Responsibilities

- Review and provide input on planned EDC service changes and/or new services proposed by ISD.
- Identify and prioritize customer department EDC services “needs and wants”, discuss with ISD leadership and provide direction through a vote.
- Review planned EDC investments proposed by ISD and provide input on priorities.
- Provides direction on allocation of enterprise provided funds to specific projects and services through a binding voting process.
- Review ISD provided service delivery reports and collectively discuss major customer incidents/issues with ISD leadership.
- Review and discuss the results of the annual EDC benchmark process.
- Discuss requests by departments for exemptions from the Board’s EDC consolidation mandate and forward recommendations to the Board.

Membership & Rules of Operation

- 11 voting members
  - 2 appointed by the CIO’s Office, 1 appointed by ISD
  - 8 elected by the CIOs on the CIO Leadership Committee (2 year staggered terms, 4 CIOs will serve an initial 3-year term)
    - From departments who use EDC services
    - At least 1 from each “cluster”
- Chaired by one of CIO’s Office representatives
- Meets at least 6x per year; may be aligned with CIO LC meetings
- Decision making by majority vote of members present (Principals only. Delegates may not vote.)

Powers and Decision Rights

- Require ISD to discuss service changes, plans, investments and customer issues.
- Direct how EDC funds* are allocated
- Approve or reject service exemption requests

* EDC funds consist of data center cost that are centrally funded and ISD datacenter rebates, may include recommendation to CEO to provide or request additional funding. ISD has administrative responsibility for EDC funds.

Draft RACI Chart outlining roles and responsibilities (subject to further review and refinement by the CIO Leadership Council)

Description	EDC-SC[1]	ISD	CIO's Office	Dept's[2]
Determine Overall County IT Strategy	C	C	A,R	C
Determine what EDC Services to Use		I	C	A,R
Deliver EDC Services		A,R	C	I
Define/Change EDC Services	A	R	C	I
Define Functions supporting EDC Service Delivery	C	A,R	C	I
Monitor EDC Service Performance	C	A,R	C	I
Define/Prioritize EDC discretionary Investments	A	R	C	I
Direct Allocation of EDC funding[3]	A,R	C	C	I
Approve EDC Mandate Exemptions[4]	C	I	R	I
3rd Party Benchmark EDC Services	C	C	A,R	I

[1] EDC Steering Committee (SC) – compilation of members elected from the CIO Council

[2] The Departments are consulted through various other channels, including CIO Council, CIO Leadership Council, and throughout their department leadership / peers, etc.

[3] ISD has administrative responsibility for EDC funds

[4] The Board is Accountable for approving exceptions

R = Responsible **C** = Consulted

A = Accountable **I** = Informed

(see definitions in Appendix)

This RACI matrix to be further defined within the EDC-SC governance agreement.

Gartner

The EDC Steering Committee will review service exemptions from the consolidation mandate and provide recommendations to the CIO

- Exemptions from the mandate to consolidate from the Board of Supervisors
  - For the purpose of this discussion the assumption has been made that the mandate to consolidate includes all County departments. This implies that the Board of Supervisors will adopt a formal mandate to consolidate including a specific date by which all departments will have to be consolidated.
  - Departments who request a service exemption from the mandate will have to make a case to the CIO's office and EDC-SC describing why they feel that they need to delay compliance with the consolidation mandate and for how long. This requires defining and operationalizing a formal process to review and grant service exemption requests from the mandate.
  - If the EDC-SC proposes to grant an exemption from the mandate, this will occur in the form of a recommendation to CIO. CIO will then route the service exemption request to the Board of Supervisors, which will have to approve or reject the recommendation.
  - If a service exemption is denied, the applying department can appeal the decision with the Board of Supervisors.
- Other items that should be covered by this process include use of department-managed colocation space vs. eCloud infrastructure, upgrades to existing or new department data center infrastructure, and use of public cloud vs. eCloud infrastructure.

The EDC Steering Committee will oversee and annual benchmark of key EDC services against external services provided by other organization and vendor.

- CIO's Office – in consultation with ISD – will hire an independent 3rd party to conduct an annual, benchmark of EDC services in order to compare services, costs and service levels with those provided by external vendors and peer organizations of similar size and complexity.
- The results of the benchmark will be shared with ISD, EDC-SC, CIO Leadership Committee CEO's office, and the appropriate Board Deputies as needed.
- Jointly, CIO and ISD will:
  - Establish repeatable Benchmark methodology and process to include:
    - Customer satisfaction measurement
    - Service price comparison
    - Service delivery cost comparison
  - Determine scope and focus of annual benchmark (may happen in consultation with the EDC-SC).
  - Direct benchmark activities.
  - Receive, review and summarize benchmark result.
  - Provide EDC-SC and ISD with recommendations on service and cost/price optimization.
  - Determine the need for centralized funding for specific services and establish the amount, guidelines (e.g. sunset dates for seed funding).

The County will benchmark key EDC services against external entities on an annual basis (cont'd).

Benchmark Process

- Benchmarks will be conducted on an annual basis with results targeted for delivery in December.
- Three primary data points will be benchmarked:
  - Customer's level of satisfaction with ISD Service delivery
  - ISD's price for delivery services
  - ISD's cost for delivering services
- The CIO and ISD will jointly define the benchmark methodology and hire a 3rd-party entity to conduct the benchmark.
  - The scope of the Benchmark will be limited to Enterprise Data Center Services
- The CIO and ISD will jointly review, summarize and socialize the results within the EDC-SC.

Types of Benchmarks

- Customer Satisfaction Survey
  - 3rd Party will survey key IT and business stakeholders in each customer organization regarding satisfaction with services delivered.
  - EDC-SC and CIO Council will determine who receives a questionnaire.
- Service & Price Benchmark
  - The 3rd-party benchmark services vendor will compare ISD rates/service levels with rates/service levels from other public sector shared service organizations and from external service providers.
- Cost Benchmark
  - 3rd Party will use industry standard cost models to compare ISD delivery costs with those of peer organizations of comparable size, complexity and mission.

The Benchmark will look at ISD from two perspectives in order to make two different comparisons

Shared with SC

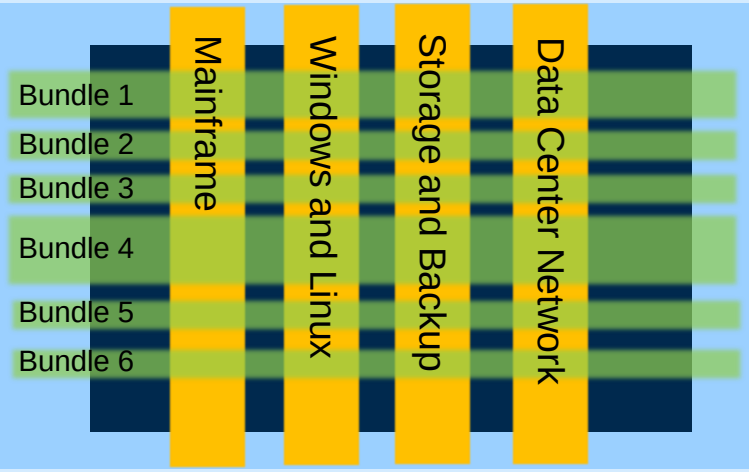
Question #1

Am I paying more for services than my peers in other organization? Or more than I would pay to hire and manage a vendor?

Question #2

Are ISD's delivery costs in line with other peer organization of comparable size and complexity?

Internal to CIO and ISD, used as input to determine service pricing



Service & Price Benchmark

Compare price ISD charges to charges for same or comparable services/service levels from:

- Other public sector enterprise shared service operations
- External Vendors

Cost Benchmark

Use industry standard total cost ownership cost models to compare ISD delivery costs with those of other private and public sector organization with similar service and delivery profiles.

High Level Roadmap for Implementation of Governance model

Action	Owner	Final Approver	Target Completion
Board direction to prepare data center consolidation plan	Board of Supervisors	Board of Supervisors	October 2015
Formally adopt a specific Consolidation Mandate	Board of Supervisors	Board of Supervisors	October 2015
Formally adopt the Governance Model	CIO LC	Board of Supervisors	October 2015
Charter the initial EDC-SC	CIO LC	CIO LC	November 2015
Finalize the EDC steering committee charter	EDC-SC	CIO LC	November 2015
Develop and adopt EDC complaints/service feedback process	EDC-SC	CIO LC	January 2016
Define ISD Benchmark Methodology	ISD & CIO	ISD & CIO	January 2016
Develop EDC exemption process	Steering Committee	CIO LC	January 2016
Develop and adopt initial Service Portfolio	ISD	ISD	February 2016
Conduct initial Benchmark	ISD & CIO	ISD & CIO	February 2016
Develop and adopt Service Catalog	ISD	ISD	June 2016
Develop funding process for new services	EDC-SC	ISD	June 2016
Develop service levels and reporting metrics for Key Services	ISD	EDC-SC	June 2016

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APPENDIX

Guiding Principles for the Enterprise Data Center Governance Model (cont'd)

- Keep it simple and direct
  - Fewest number of bodies, focused membership and clear decision making process (i.e. less is more)
  - Balance the need to include "everyone" against the need for nimble decision making
  - Clear roles/responsibilities and powers (i.e. specific powers and roles are critical)
    - What decision rights are vested in the Governance body
    - Who sets the agenda for and provides staff support for the governance body
    - How will decisions be made (e.g. voting, consensus, veto rights, etc.)
  - Avoid over-reach or heavy handed methods where possible
- Evolve over time (i.e. crawl, walk, run)
  - Stand it up and practice governance, strengthen before attacking controversial topics
  - Consider engaging a 3rd party to help provide independent facilitation during the start up
- The Governance Model will need to address three critical aspects of the EDC related services
  1. Service **delivery** and **ongoing service management**
  2. **Innovation** and **demand management** (i.e. defining new services and keeping existing service offerings aligned with customer needs)
  3. Service **price setting** and independent/objective **benchmarking** of these prices against comparable internal and external (LAC departments, vendors, other public sector entities) entities.

Guiding Principles for the Enterprise Data Center Governance Model (cont'd)

- Governance of the County's EDC must include all stakeholders and must balance the decision rights of multiple entities:
  - Stakeholders include:
    - County departments as service customers
    - County CIO as policy setting and oversight entity
    - County CEO's office (e.g. COO) as overseer of budgetary and funding models
    - ISD as service provider of Data Center services and data center proprietor
  - The governance model must ensure that customers and oversight entities are adequately independent of the service provider
- The Governance Model must be scalable and extensible to consider new and/or changing services
  - Initial services could include data center co-location services, e-cloud services, managed server and storage services & mainframe services

The RACI Matrix explained

- **Responsible**
  - Those who do the work to achieve the task. There is at least one role with a participation type of responsible, although others can be delegated to assist in the work.
- **Accountable** (also approver or final approving authority)
  - The one ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. In other words, an accountable must sign off (approve) work that responsible provides. There must be only one accountable specified for each task or deliverable.
- **Consulted**
  - Those whose opinions are sought, typically subject matter experts; and with whom there is two-way communication.
- **Informed**
  - Those who are kept up-to-date on progress, often only on completion of the task or deliverable; and with whom there is just one-way communication.

Benefits of a Service Catalog

- Benefits to the business customers include:
  - ✓ Receives improved service quality on business-critical IT services
  - ✓ Creates better-balanced business investment in IT relative to value received
  - ✓ Simplifies process for requesting IT services
- Benefits to the IT organization include:
  - ✓ Raises the IT organization's credibility
  - ✓ Helps everyone understand costs and shapes customer demand with pricing
  - ✓ Simplifies administration and management of IT services
  - ✓ Improves efficiency of service request to service delivery process
  - ✓ Reduces ad hoc and custom service requests, as well as requests for exceptions to the standard services

A portfolio of value-based, business-oriented IT services at different price points, **raises credibility** and **helps establish a foundation** for **service quality** and **IT investment negotiations** that are based on **business value** and **results**. Through **standardization**, along with **better understanding of customer requirements** and delivery costs, LA County will be in a position to do an **accurate cost/profit analysis** for its service portfolio, and continually seek methods to **reduce delivery costs** while meeting customer service and quality requirements.

Service Description
Co-location Services

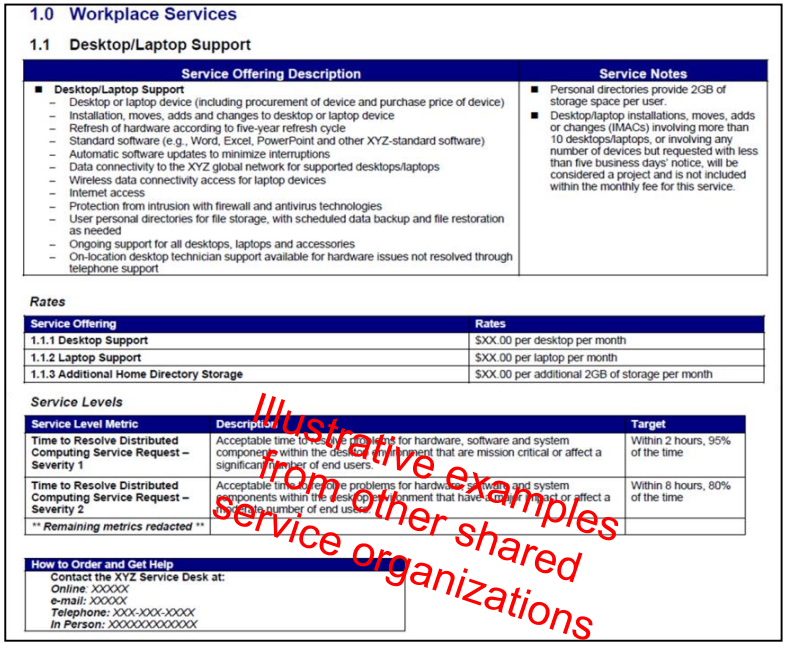
Co-location Services	
Service Description	Provides County Departments with the option to purchase a data center as a service option which provides customers with equipment, space, bandwidth and resources to manage their IT infrastructure and data needs.
Service Features and Availability	Detailed description of features and capabilities that the customer receives with the Service Offering – will be developed as part of the Service Catalog
Service Options	Description of different options for receiving the services, likely with tradeoffs between cost, service levels and features/capabilities – will be developed as part of the Service Catalog
Service Owners	Describes the process of ordering or getting help – will be developed as part of the Service Catalog
Service Levels	Sets the expectations for service performance and for support availability and responsiveness – will be developed as part of the Service Catalog

Service Reporting and Billing	Service Rates	
	Service Component	**Monthly Rate**
Describes the level of service reporting which will provided to the customer and how customer bills will be presented – will be developed as part of the Service Catalog	Service 1 Service 2 Service 3 …	Monthly Rate 1 Monthly Rate 2 Monthly Rate 3 …

KEY: gray font indicates, information to be collected in the future during a future development stage

The Services delivered by the EDC will be defined in a detailed Service Catalog

Service Catalog Elements	Description
Service Description	Brief but meaningful description of the Service Offering
Service Features and Capabilities	Detailed description of features and capabilities that the customer receives with the Service Offering
Service Options	Description of different options for receiving the services, likely with tradeoffs between cost, service levels and features/capabilities
Service Offering Notes	Describes what the customer does not receive with the offering (exclusions, limitations, responsibilities of the customer)
Service Offering Rate	Describes the one-time and recurring costs which the customer will be charged for using the service
How to Order	Describes the ordering and service provisioning process for the services
How to Get Help	Describes the support process to be used by service consumers to get support when using the services
Service Owners	Should be included if it is part of ordering or getting help; otherwise not needed
Customer Benefits	Business benefits the customer receives through the service, and benefits of receiving this service from the IT provider
Service Levels	Sets the expectations for service performance and for support availability and responsiveness
Cost Saving Tips	Actions the customer can take to reduce their costs aciated with the service offering
Service Reporting & Billing	Describes the level of service reporting which will provided to the customer and how customer bills will be presented
Useful Links	Links to information outside the catalog; links may also be placed in any other section above



1.0 Workplace Services

1.1 Desktop/Laptop Support

Service Offering Description	Service Notes
■ **Desktop/Laptop Support** – Desktop or laptop device (including procurement of device and purchase price of device) – Installation, moves, adds and changes to desktop or laptop device – Refresh of hardware according to five-year refresh cycle – Standard software (e.g., Word, Excel, PowerPoint and other XYZ-standard software) – Automatic software updates to minimize interruptions – Data connectivity to the XYZ global network for supported desktops/laptops – Wireless data connectivity access for laptop devices – Internet access – Protection from intrusion with firewall and antivirus technologies – User personal directories for file storage, with scheduled data backup and file restoration as needed – Ongoing support for all desktops, laptops and accessories – On-location desktop technician support available for hardware issues not resolved through telephone support	■ Personal directories provide 2GB of storage space per user. ■ Desktop/laptop installations, moves, adds or changes (IMACs) involving more than 10 desktops/laptops, or involving any number of devices but requested with less than five business days' notice, will be considered a project and is not included within the monthly fee for this service.

Rates

Service Offering	Rates
1.1.1 Desktop Support	$XX.00 per desktop per month
1.1.2 Laptop Support	$XX.00 per laptop per month
1.1.3 Additional Home Directory Storage	$XX.00 per additional 2GB of storage per month

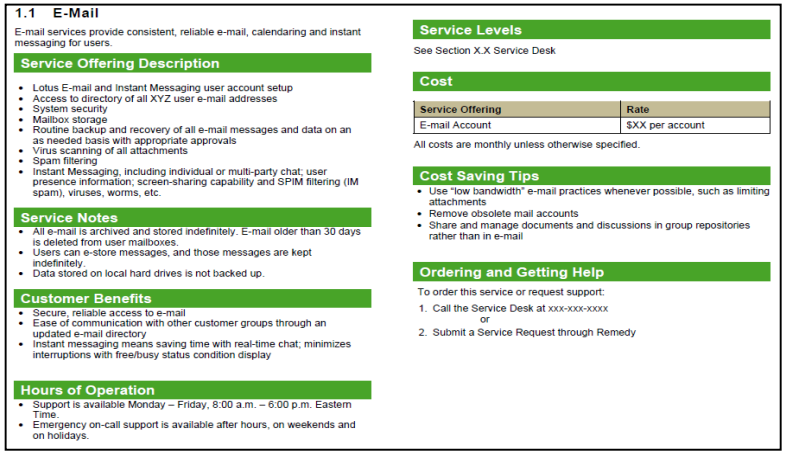
Service Levels

Service Level Metric	Description	Target
Time to Resolve Distributed Computing Service Request – Severity 1	Acceptable time to resolve problems for hardware, software and system components within the desktop environment that are mission critical or affect a significant number of end users	Within 2 hours, 95% of the time
Time to Resolve Distributed Computing Service Request – Severity 2	Acceptable time to resolve problems for hardware, software and system components within the desktop environment that have a significant impact or affect a significant number of end users	Within 8 hours, 80% of the time
** *Remaining metrics redacted* **		

How to Order and Get Help

Contact the XYZ Service Desk at:
Online: XXXXX
e-mail: XXXXX
Telephone: XXX-XXX-XXXX
In Person: XXXXXXXXXXX

Illustrative examples from other shared service organizations



1.1 E-Mail

E-mail services provide consistent, reliable e-mail, calendaring and instant messaging for users.

Service Offering Description

- Lotus E-mail and Instant Messaging user account setup
- Access to directory of all XYZ user e-mail addresses
- System security
- Mailbox storage
- Routine backup and recovery of all e-mail messages and data on an as needed basis with appropriate approvals
- Virus scanning of all attachments
- Spam filtering
- Instant Messaging, including individual or multi-party chat; user presence information; screen-sharing capability and SPIM filtering (IM spam), viruses, worms, etc.

Service Notes

- All e-mail is archived and stored indefinitely. E-mail older than 30 days is deleted from user mailboxes.
- Users can e-store messages, and those messages are kept indefinitely.
- Data stored on local hard drives is not backed up.

Customer Benefits

- Secure, reliable access to e-mail
- Ease of communication with other customer groups through an updated e-mail directory
- Instant messaging means saving time with real-time chat; minimizes interruptions with free/busy status condition display

Hours of Operation

- Support is available Monday – Friday, 8:00 a.m. – 6:00 p.m. Eastern Time.
- Emergency on-call support is available after hours, on weekends and on holidays.

Service Levels

See Section X.X Service Desk

Cost

Service Offering	Rate
E-mail Account	$XX per account

All costs are monthly unless otherwise specified.

Cost Saving Tips

- Use "low bandwidth" e-mail practices whenever possible, such as limiting attachments
- Remove obsolete mail accounts
- Share and manage documents and discussions in group repositories rather than in e-mail

Ordering and Getting Help

To order this service or request support:

1. Call the Service Desk at xxx-xxx-xxxx
   or
2. Submit a Service Request through Remedy

ISD's Current Service Portfolio and Service Catalog Definitions will be the baseline for the EDC governance.

Service Portfolio

Service Portfolio

Description
What it is, what it does

Bundling
Subservices, packaging

Differentiation
Multiple offerings at different price points

Value Proposition
Why should they buy it?

Competitive Advantage
Why should they buy it from you?

Service Portfolio Arms Relationship Managers With the Tools to:

- Set appropriate expectations.
- Bring perceptions in line with reality.
- Sell.

Service Portfolio Arms IT Managers With the Tools to:

- Articulate and prove value.
- Make fact-based, not emotionally based, sourcing decisions.
- Set price.
- Create meaningful chargeback buckets.
- Leverage insider advantage.
- Prioritize performance improvement initiatives.
- Transfer accountability for utilization decisions back to the business.

Service Catalog

The catalog informs internal clients of:

- Product/service options at various price points.
- What to expect in terms of service/product performance.
- How to request a service or product.
- How to escalate satisfaction issues.
- How long a service or product will be supported.

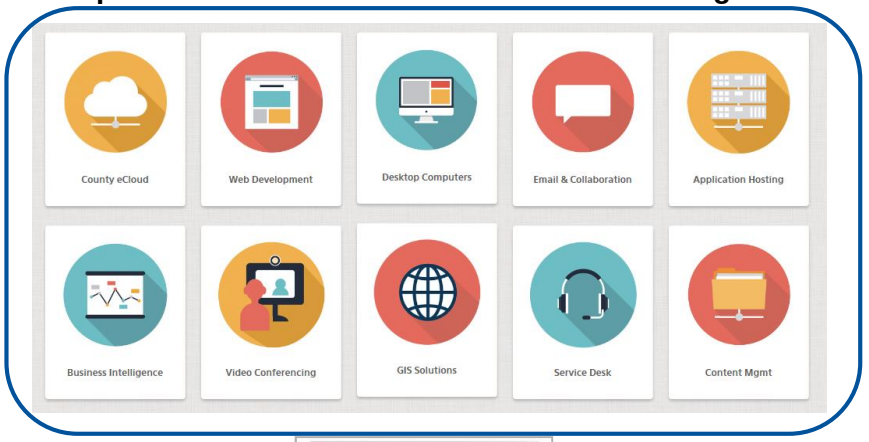
The catalog enables IT management to:

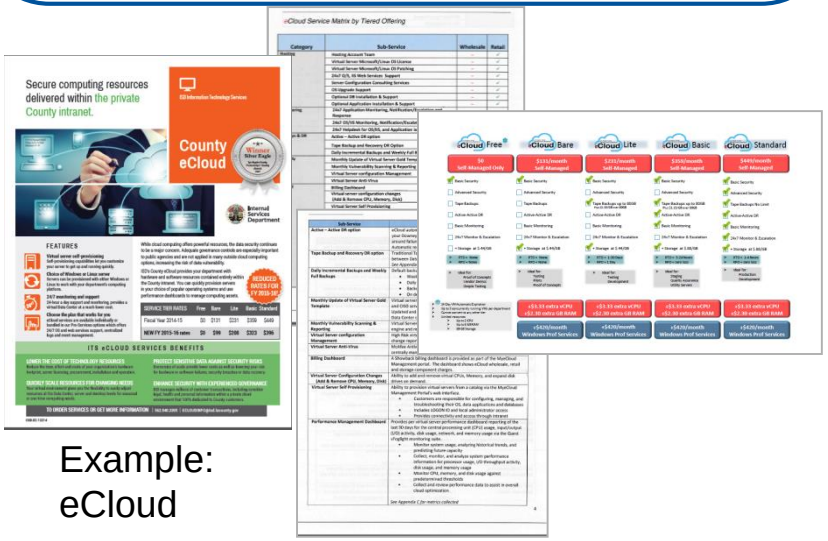
- Manage versions and standards.
- Articulate price.
- Control service request points of entry.
- Manage demand and, therefore, resources more effectively.
- Transparently connect service requests to back-office fulfillment processes.

Product and Service Catalog

- Supported products/versions
- Pricing and chargeback
- Ordering/request procedures
- Service-level agreements
- Service and support
- Escalations/exception handling

Sample view of some current ISD Service Offerings*





Example: eCloud

* Not all of these would be in the scope of EDC-SC Governance Model

Report on LA County's Data Center Strategy Governance Model, Strategy and Roadmap

Strategy and Roadmap

Attachment G Data Center Consolidation Strategy and Roadmap

September 30, 2015

Prepared for

GARTNER CONSULTING
Engagement: 330025627

Gartner

Table of Contents

Executive Highlights

- The County currently has 49 data centers utilizing more than 67,000 ft^2 of space and 2.4MW of utilized IT power in facilities that are not adequately secured or reliable to meet its business and technical needs.
- The County's strategy to consolidate its IT assets into a new data center (i.e. moving all data center related services such as physical servers, virtual servers, data storage & back-up) is aligned with Gartner best practices and industry trend. The new data center should meet a number of requirements to provide adequate security and reliability. Gartner forecasts that the County will need a new facility that eventually can support 2.1MW and 14,000 ft^2 of IT workload over the next 10 years. If not all departments participate, capacity requirements will be less.
- The County should consider various ownership options for its new primary facility, including building a new facility, leasing space in a current co-location facility, or leasing to suit. Long term, it should also consider moving its Local Recovery Center (LRC) from Orange County to reduce its disaster risk.
- Over the next five years, the County should focus on selecting a new primary data center and consolidating all its IT assets into the facility. This effort will require a board mandate for consolidation, a new governance model to provide the needed oversight and transparency, and appropriate planning and funding to ensure a smooth consolidation.

Summary of Current State and Future Requirements

The County's current data center environment is not efficient and does not provide the resiliency needed for its critical applications

- The County has already made significant strides to consolidate their systems to ISD; however, 24 departments still have at least one self-managed facility, resulting in a consumption of 2.4MW of IT power and 67,000 ft^2 of space across the County.
- Virtualization efforts have led to significant decreases in data center capacity needs. As a result, the County is currently under-utilizing its space, and the provisioned cooling and energy capacity, with many data centers using less than 50% of the available capacity.
- None of the data centers operated by the County can be considered a dedicated data center facility.
- Only one data center (DHS MLK) has best practice reliability for mission critical applications. Eleven others, including ISD's Downey and LRC, have moderate reliability and the rest have low reliability.
- County departments are focused on maintaining their current facilities and, except for ISD, DHS, DMH, and Sheriff, do not have articulated plans for their data centers.
- All the County's data centers, including its disaster recovery site in Orange County, are subject to seismic risk. Only four data centers are base isolated or have seismically reinforced buildings.

Photos taken during the site visits

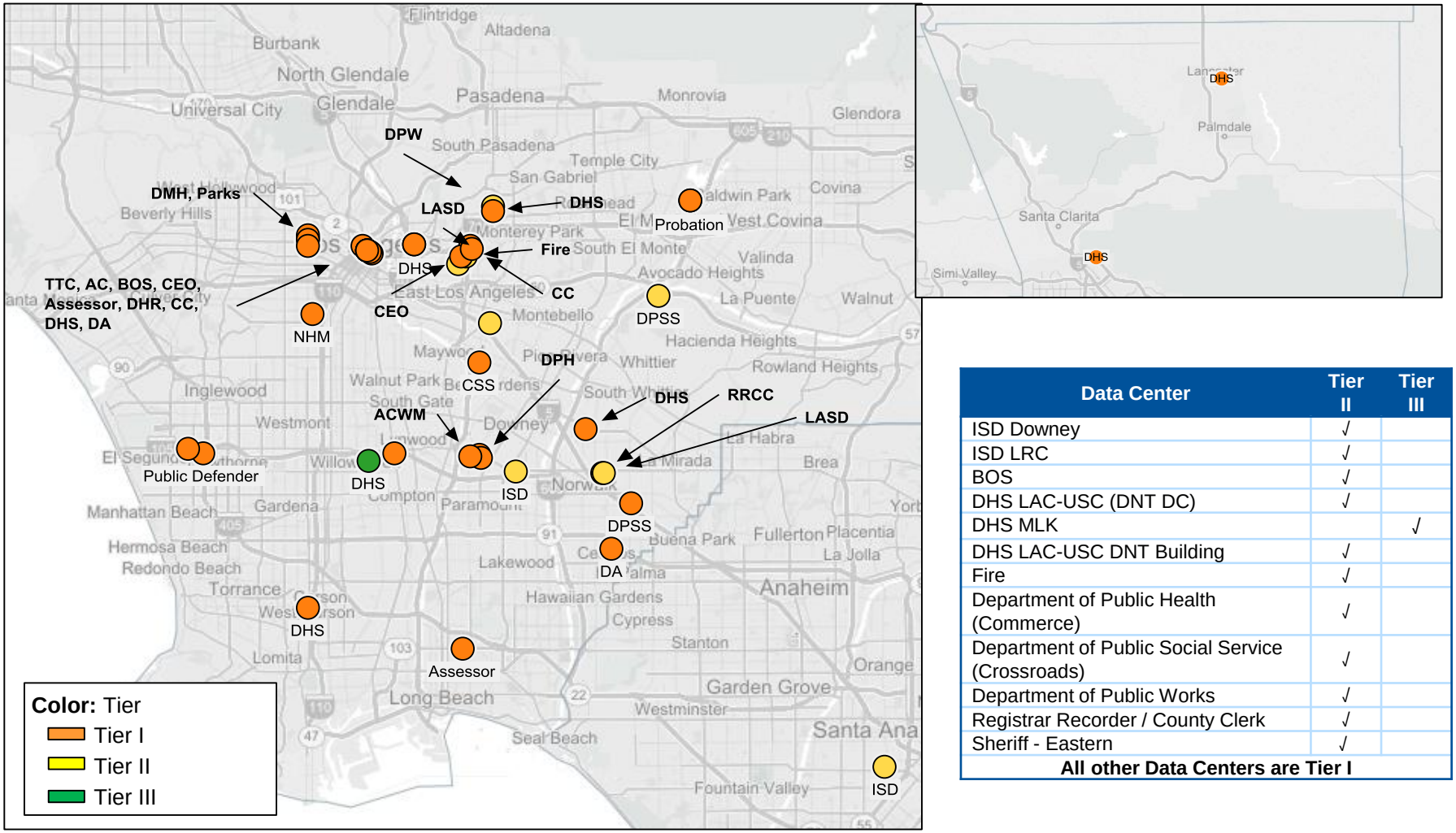
Requires portable AC units

Boxes of storage in Data Center

Aging equipment in aging facilities

Also used as a break room with a refrigerator

Only one (1) of the County's data centers is Tier III (which is best practice for mission critical applications); another 11 are Tier II, including ISD Downey.



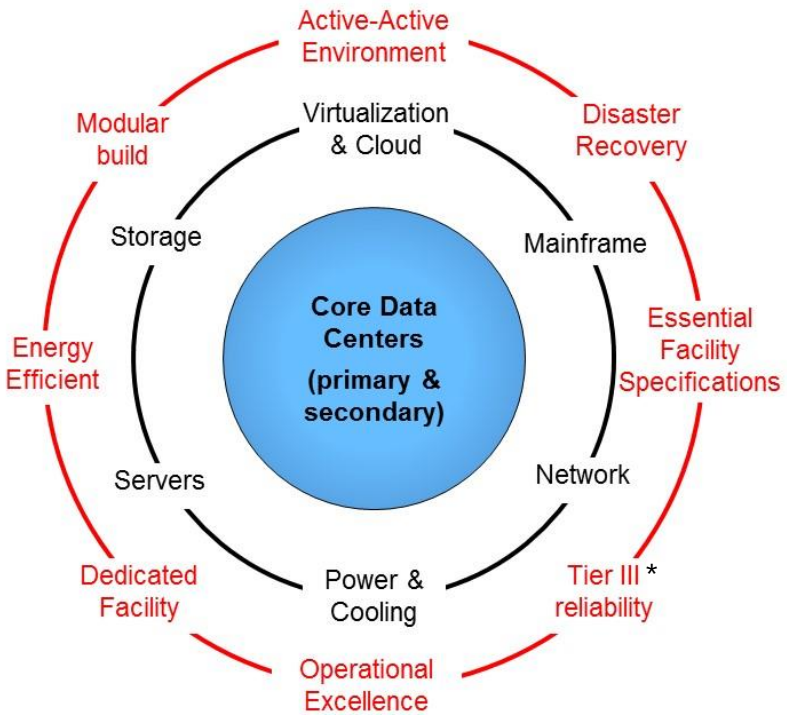
Data Center	Tier II	Tier III
ISD Downey	√	
ISD LRC	√	
BOS	√	
DHS LAC-USC (DNT DC)	√	
DHS MLK		√
DHS LAC-USC DNT Building	√	
Fire	√	
Department of Public Health (Commerce)	√	
Department of Public Social Service (Crossroads)	√	
Department of Public Works	√	
Registrar Recorder / County Clerk	√	
Sheriff - Eastern	√	
All other Data Centers are Tier I		

See appendix for definition of Tiering system

In addition to the current state, Gartner identified seven leading data center practices that influenced the future state vision and requirements for LA County

Leading Practice	Description
1. Consolidate and Establish Multi-site Strategy to Manage Risk and Provide Differentiated Class of Service	• Regional organizations require a minimum of two locations to manage risk. National and global organizations may leverage paired regional or continental data center hubs. • Distinction between Primary and Backup data centers are diminishing as active/active and continuous availability requirements increase.
2. Prioritize Mission Critical Applications	• Define discrete criticality levels for applications and align them to DC service classes. For example, mission-critical applications that do not operate in active/active mode from multiple DCs will need to be hosted in Tier III or higher data centers.
3. Support Realistic RTOs and RPOs	• Select data center architectures that support RTOs and RPOs that are in minutes vs. hours to support digitalization of IT and avoid disruptions to critical services.
4. Avoid the same disaster strike zone	• Location of data centers must avoid the same disaster strike zone. Additional considerations must include power cost, personnel availability, network cost, real estate cost, and climate (which impacts energy efficiency).
5. Leverage Cloud Services Where Appropriate	• When appropriate, use cloud services to leverage assets and improve agility, scalability, elasticity, and self-provisioning. SaaS can enhance maturity of service capability. Hybrid Clouds can extend capacity when needed.
6. Avoid DC Ownership to Improve Flexibility and Reduce Investment Risk	• Leased DC space using experienced service providers enables rapid deployment and replication of the DC environment at a much lower investment risk and initial capital than ownership. Furthermore, existing and proven operational best practices can be leveraged.
7. Utilize DC-only Edifices	• Data centers should be located in dedicated data center facilities in order to improve security, reduce environmental risks, and minimize impact of County land management strategies on IT operations.

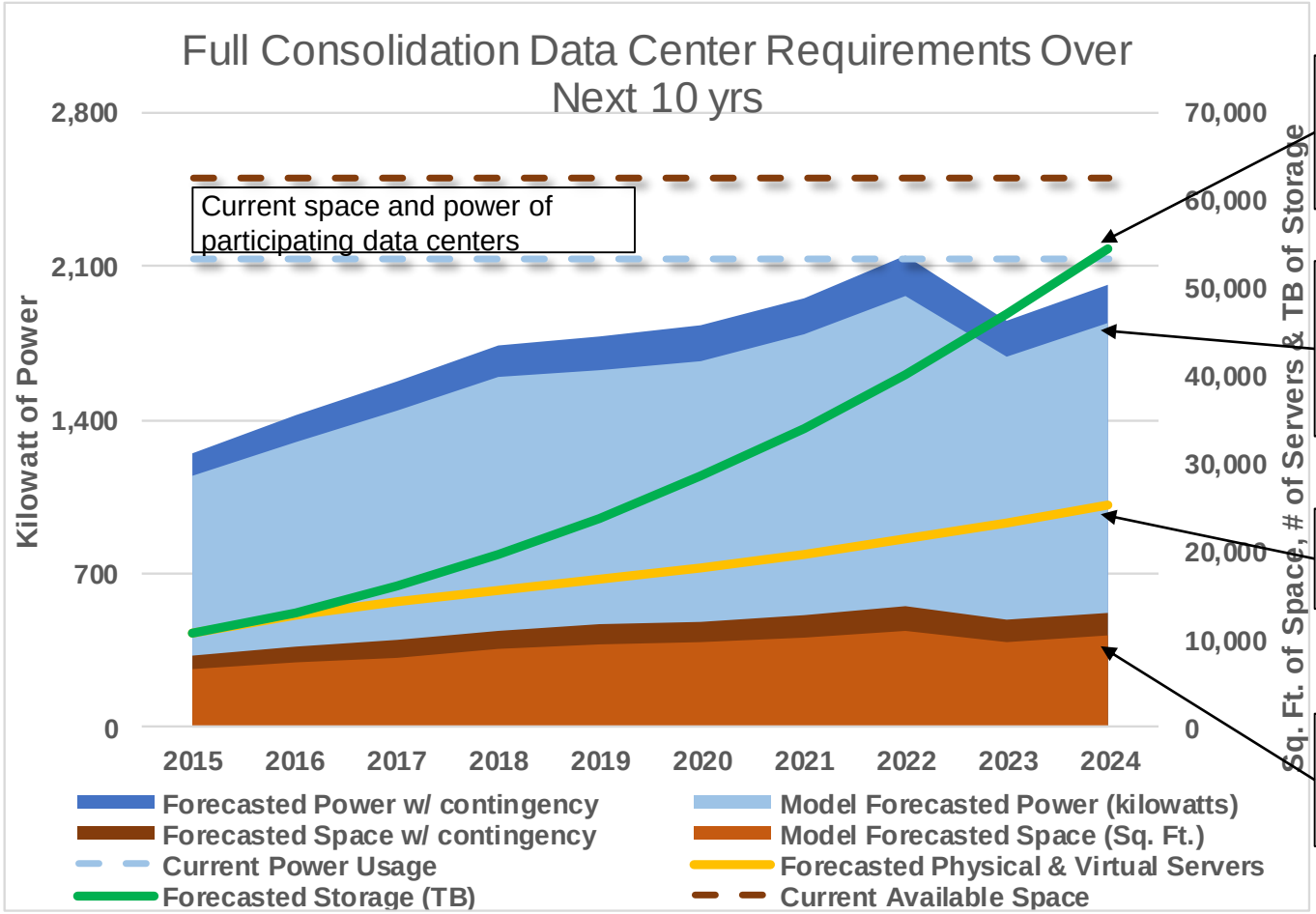
The County's future state vision combines an understanding of the County's current state with market trends and practices



- **Active-Active Environment:** LA County should plan for two consolidated County data centers capable of operating in active-active configuration with a maximum latency of 10ms.
- **Disaster Recovery:** Data centers shall not be within the same earthquake fault zone unless mitigated by a third facility.
- **Essential Facility Specifications:** Building shell shall comply with the International Building Code (IBC) Essential Facility specifications.
- **Tier III Reliability:** To enhance availability and manage risk, consolidated data centers shall comply with TIA-942 Tier III specifications and be able to pass formal certification if so desired by the County.
- **Operational Excellence:** Facilities and IT operational maturity and excellence shall be assessed, monitored, and improved
- **Dedicated Facility:** Building shall only house data center and associated support services such as a Network Operations Center (NOC).
- **Energy Efficient:** Energy efficiency is of great importance. Every effort should be made to design or select a facility for optimum energy efficiency. Total facility Power Usage Effectiveness (PUE) shall not exceed 1.4.
- **Modular Build:** In order to satisfy future demand while managing initial cost, data center power and cooling infrastructure shall be modular with ability to increase capacity without outage to any operating IT infrastructure.

*Industry standard for best practices reliability

Gartner's 10 year capacity model indicates that the County should plan to accommodate 2.1MW of power and 14,000ft^2 of space if all departments consolidate



Storage volume will increase at a close to exponential rate, increasing from 10.6PB to 54.3PB

Power usage will grow faster over time than space leading to a denser configuration (more power usage per ft^2 over the next 10 years)

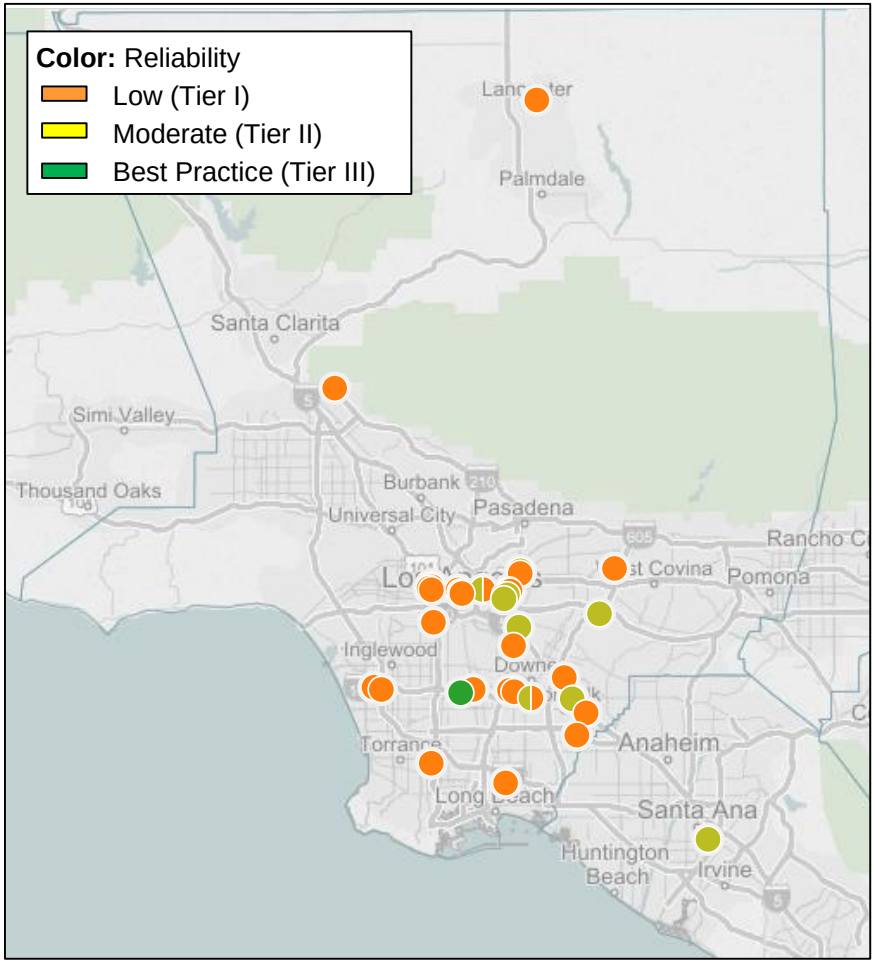
OS Instances & Virtual Desktops will steadily grow over time from 10,700 to 25,300

Space usage will not grow nearly as substantially as other metrics, only increasing 4,000 ft^2 over 10 years

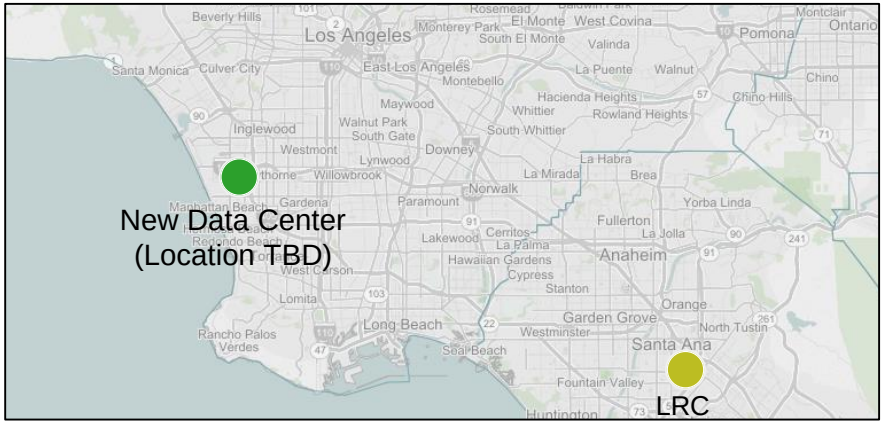
Note: Current Space and Power numbers exclude LRC

Full consolidation would reduce the number of data centers from 49 to 2, but some departments will likely maintain their data centers, at least in the near term

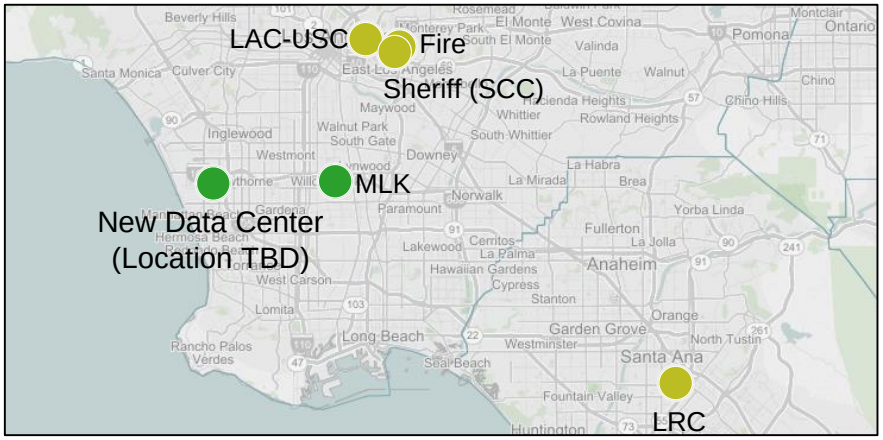
Current State



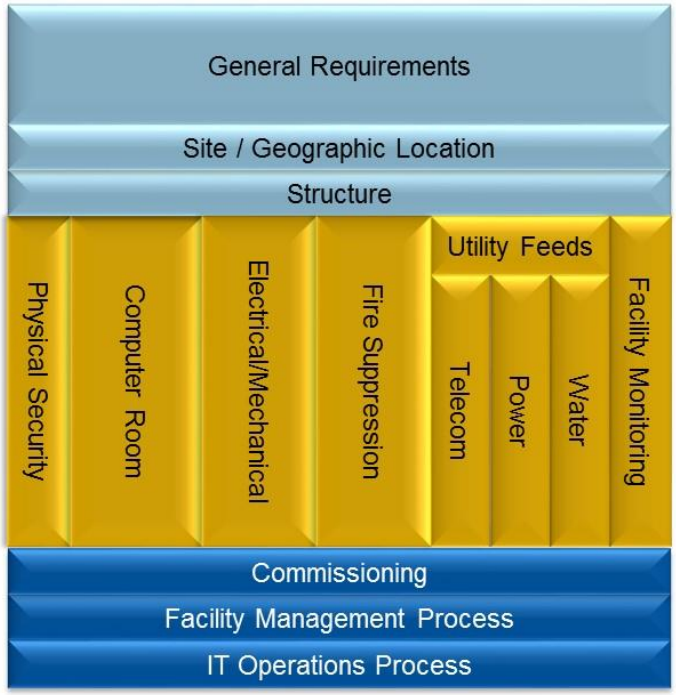
Future: Full Consolidation



Potential Near Term Future State



Gartner provided additional future state requirements according to the following framework



- **General Requirements:** Key requirements which drive the overall data center vision.
- **Site / Geographic Location:** Guidelines and requirements of the geographic location and site (e.g. land) where the data center will be located.
- **Structure:** Guidelines and requirements regarding the construction and layout of the building which will contain the data center.
- **Physical Security:** Requirements for physically securing the data center facility.
- **Computer Room:** Guidelines and requirements for the computer room including both features and capacity.
- **Electrical/Mechanical:** Guidelines and requirements for the heating, cooling and power distribution infrastructure required to support the computer room.
- **Fire Suppression:** Requirements regarding fire detection and suppression systems.
- **Utility:** Requirements regarding utilities (telecom, water, and power) including water storage and telecom/power diversity.
- **Monitoring and Control**: Requirements for monitoring the health and utilization of power and cooling infrastructure, detect hazards, monitor security and other facility related systems, as well as control and automate operation of these systems.
- **Commissioning:** Requirements for a) testing and validating that the facility and its MEP components perform and function as designed, b) documenting and testing all the operating procedures, and c) ensuring that facilities staff are trained in those operating procedures.
- **Facilities and IT Operations Processes**: Requirements for processes, skills and staffing levels required to manage a critical facility and IT Operations.

Alternatives Analysis Summary

The following considerations were weighted in evaluating alternatives for the County's primary and secondary data centers

Growth and Scalability

Examples

- Deployment of new service offerings such as Power Cloud, storage virtualization, desktop virtualization
- Support for long term growth plans and change in departmental participation
- Elasticity – Possible reduction in power and cooling requirements due to future SaaS and Hybrid Cloud opportunities

Business Alignment and Agility

Examples

- Changes to the governance model
- Focusing on core service offerings and what matters
- Responsiveness to competitive market trends, changing political landscape, and reciprocating agreements with other agencies
- Ability to offer competitive pricing (managing cost)
- Flexibility in changing in business model
- Responsiveness to regulatory changes

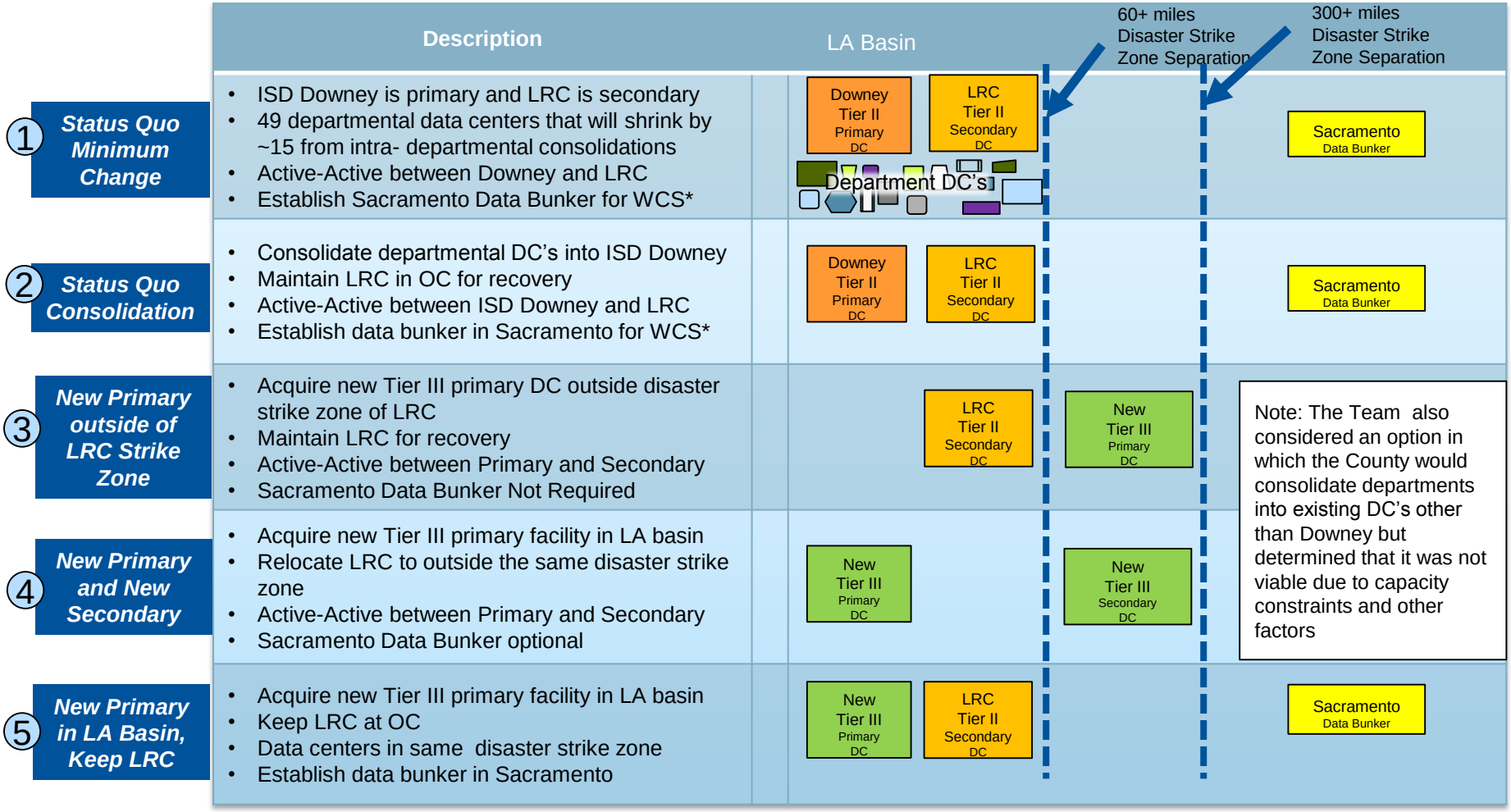
Operational Efficiency (Value and Quality)

Examples

- Established and mature processes and procedures
- Well trained facilities staffing
- Improved facilities staffing 7x24x365
- Improve standardization
- Improve provisioning and time to deployment

- Key Questions:
  - Where should LA County's primary data center be located to minimize business risk? What are the tradeoffs involved in having multiple LA County data centers physically close to one another or far apart?
  - Should LA County continue to leverage LRC? How will the role of the secondary data center evolve in the future?

The County has five (5) possible courses of action that were evaluated based on the board motion and future state requirements



*WCS = Worst Case Scenario

Gartner performed a high level qualitative scan of the 5 identified options against the Evaluation Criteria for Operational Excellence and Operational Risk.

				1	2	3	4	5
Category	**Weight**	**Sub-category**	**Importance**	**Status Quo**	**Status Quo Consolidation**	**New Primary Outside LRC Strike Zone**	***New Primary and New Secondary***	***New Primary in LA Basin Keep LRC***
Cost	20%	Total Cost (NPV)	H	0.3X	0.3X	$X	$1.2X	$X
		On-going Operational Costs	M					
		One-time Cost	M					
Operational Excellence	25%	Performance and Availability	H					
		Control of Operations	L					
		Future State Capabilities	M					
		Management Ease	L					
		Agility	M					
Time to Steady State	15%	Speed and schedule to implement strategy	H	N/A	1-2	2-3	1-6	1-4
Operating Risks	25%	Strategic Risk	M					
		Organization Risk	M					
		Solution Risk	L					
		Disaster Exposure	H					
Transition Risks	15%	Schedule	H	N/A				
		Operations	L	N/A				
		Financial	M	N/A				

Least favorable ● ● ● ● ● Most favorable

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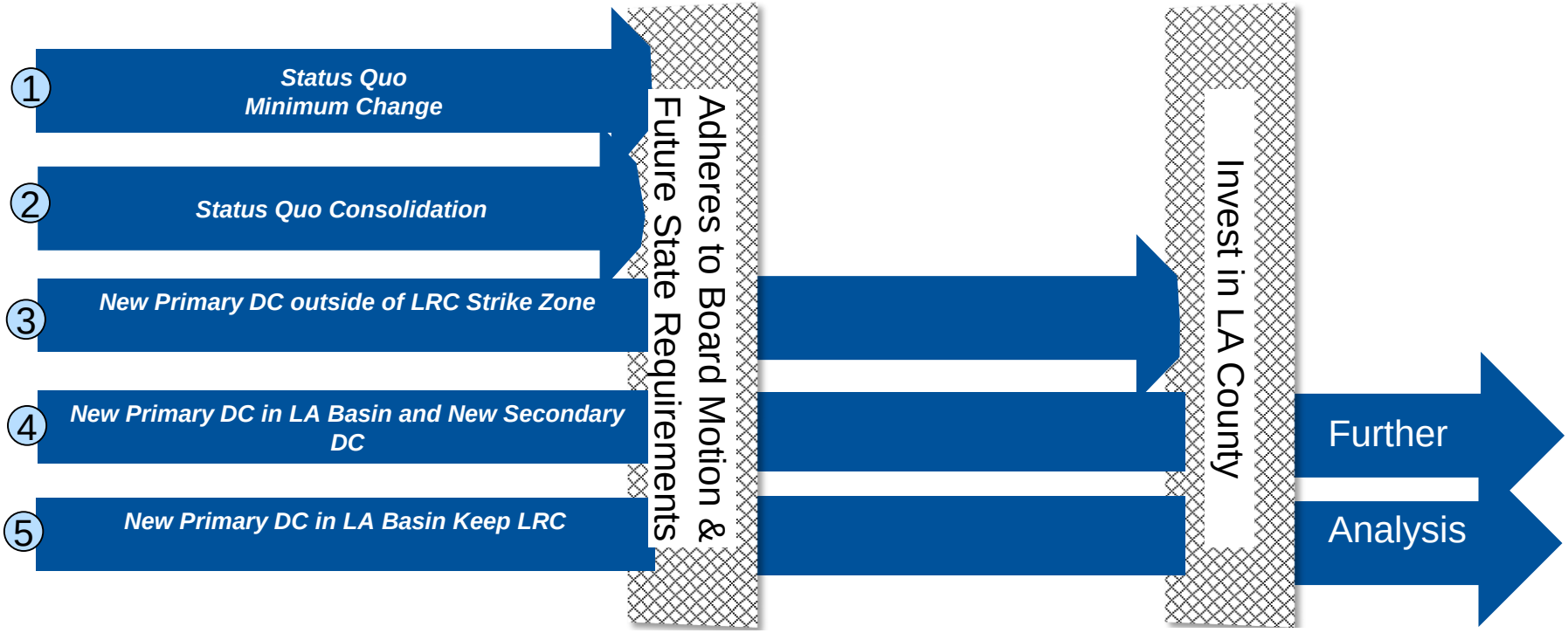
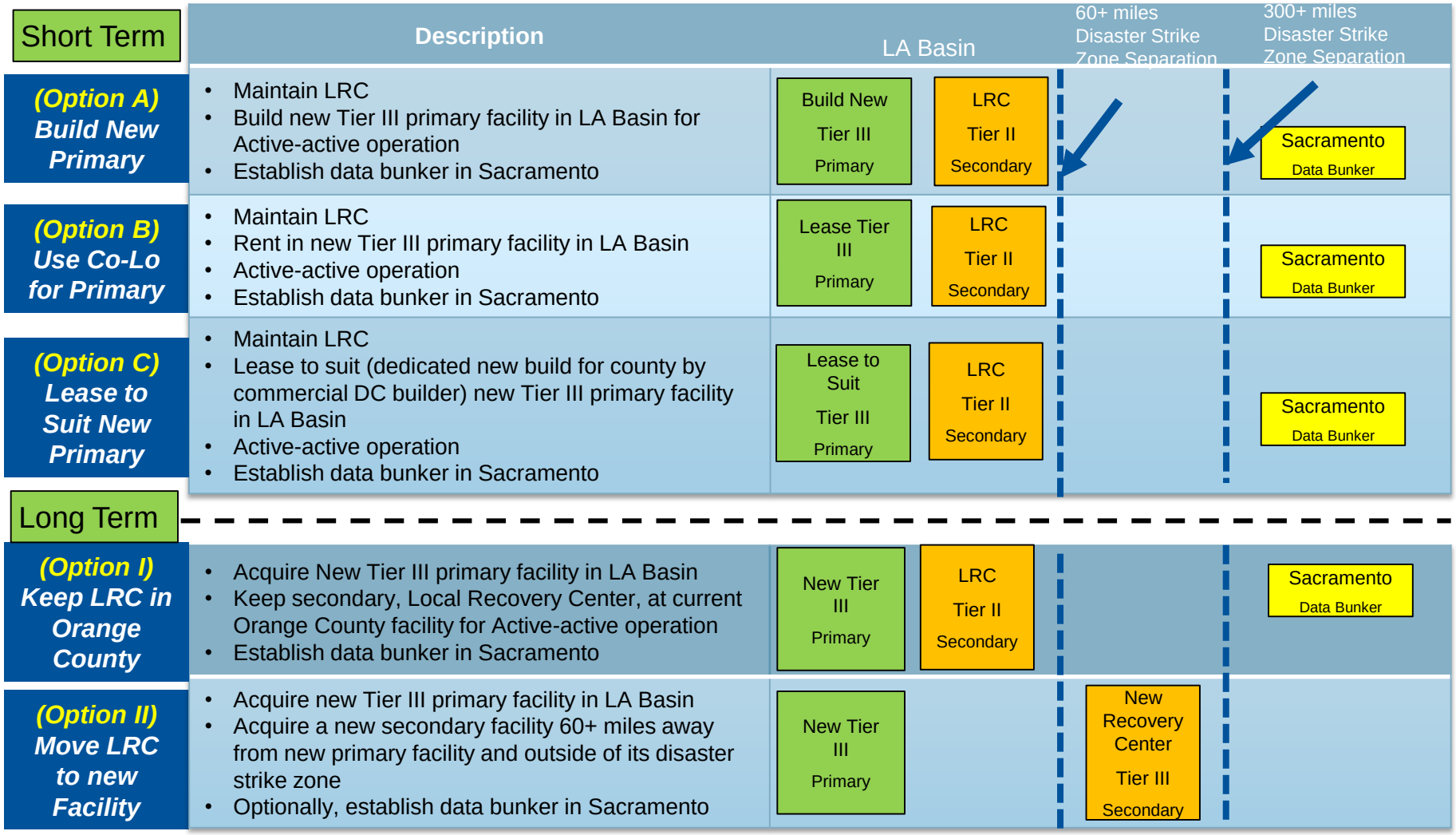
Two initial criteria were also applied to the options, indicating that options 1 – 3 do not meet the requirements in the Board motion or do not invest in LA County.



The Board Motion states the County's strategy to consolidate and replace ISD Downey.

The County's primary data center should be located in an area that is in proximity to County employees for operations and/or oversight and invest in its own economy.

The County has three options for addressing its immediate need to replace Downey. In the long term, it should also consider replacing LRC.



Summary Findings of Alternatives Analysis

1. Where should LA County's primary data center be located to minimize business risk? What are the tradeoffs involved in having multiple LA County data centers physically close to one another or far apart?

   LA County will be best served by maintaining its Primary Data Center in the LA Basin close to its IT staff. This will allow for improved operational excellence and mitigation of operational risks. However, a data bunker in Rancho Cordova should be implemented while the Secondary Data Center remains at LRC in Orange County.

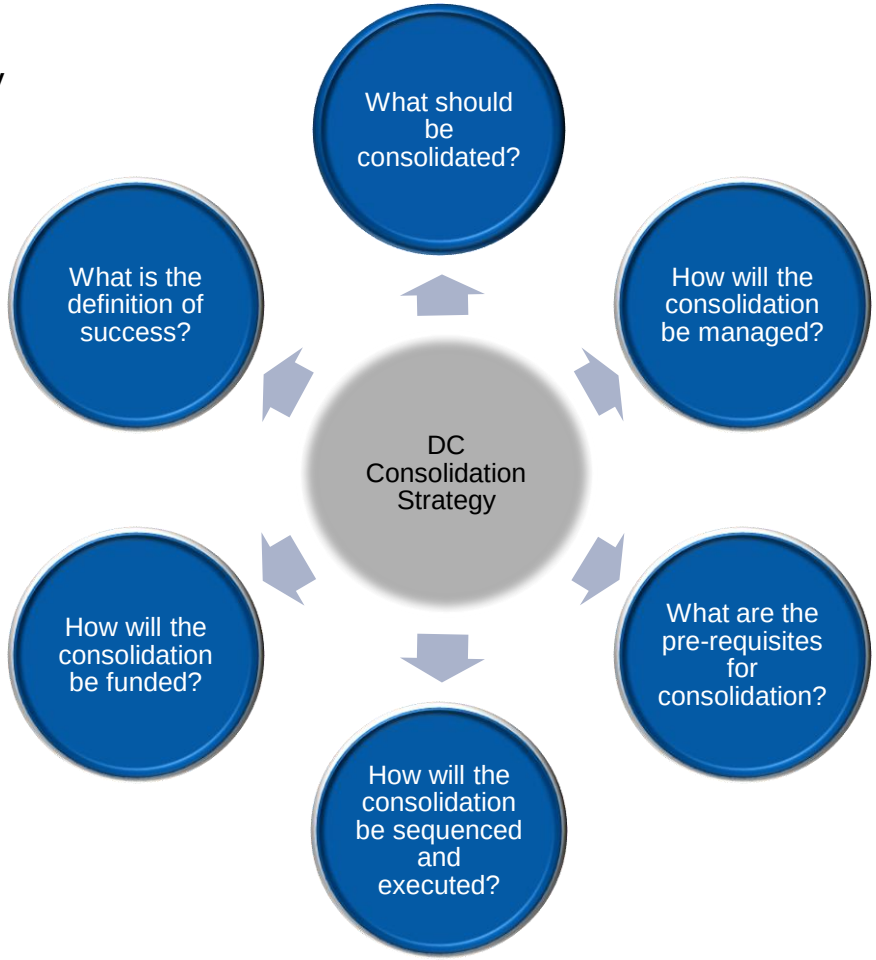
2. Should LA County continue to leverage LRC? How will the role of the secondary data center evolve in the future?

   Continued use of LRC *does carry* operational risks due to its proximity to the Primary Data Center. Although a data bunker in Sacramento can reduce this risk, it will not allow for full restoration of services within the required Recovery Point Objectives and Recovery Time Objectives of applications. For this reason, it is advisable that LA County consider relocating LRC to a leased Tier III data center facility outside of the Primary Data Center's disaster strike zone at some point in the future after the ISD Downey replacement project is underway.

Consolidation Strategy

To inform the Consolidation Strategy and Roadmap, a number of key strategic questions have been addressed with the CIO and ISD

- In forming a Consolidation Strategy, the County needs to consider a number of key questions:
  - What should be consolidated?
  - How will the consolidation be managed?
  - What are the pre-requisites for consolidation?
  - How will the consolidation be sequenced and executed?
  - How will it be funded?
  - What is the definition of success?
- Each of these questions (and associated sub-questions) were discussed in a workshop with the CIO and ISD. Based on the discussions and taking into account industry best practices, Gartner developed a set of recommendations and next steps related to each question. These recommendations have then been summarized in the Consolidation Strategy.



Who should consolidate and how should it happen?
Key Recommendations

- All County departments should fully consolidate into a virtualized, shared environment (such as eCloud, pCloud*, etc.) in the new primary data center, with very few exceptions.
- Exemptions to EDC consolidation should be based on the following criteria:
  - Recent or existing investments in high quality (Tier III) data centers that can support departmental requirements over the next five years.
  - Business needs for key systems to be in data centers located in hardened emergency response or command centers. This would be granted on an application by application basis.
- Exemptions for consolidating into a virtualized, shared environment should be based on the following criteria:
  - Both CIO and ISD agree that the shared infrastructure is unable to meet specific departmental needs (i.e. service levels, regulatory requirements, technical requirements, etc.).
  - A true “apples to apples” cost and risk comparison indicates the shared infrastructure is not the most effective use of County resources.

- **Key Actions Required**
  - CIO make recommendations to the board regarding:
    - Expected departmental participation.
    - Decommissioning of current data centers
    - Use of co-located space vs. consolidated and virtualized shared services.
    - Criteria for exemptions to be granted.
    - Process for approving or denying exemptions.

*Definition in the appendix

How will the consolidation be managed?

Key Recommendations

- The CIO should work with ISD and the CEO to develop a Migration Plan.
- To develop and manage the migration plan, the CIO should establish a Data Center Consolidation Program Management Office (DCC PMO).
  - This office will be responsible for planning and managing the departmental data center migrations.
  - The funding for this office should be included in the migration expenses.
  - The office should have representation from ISD, various departments and be composed of both internal and external resources.
- A separate, ISD program management office (ISD PMO) should be established to do the following:
  - Acquire and build out the new data center.
  - Plan and manage the migration of ISD's Downey data center into the new facility.
- Departments with at least one active data center should be responsible for developing their own migration plans under the oversight of the DCC PMO.

- **Key Actions Required**
  - Establish a data center consolidation program management office (DCC PMO)
  - Establish an ISD program management office
  - Instruct departments to develop a Migration Plan

What are the prerequisites for consolidation?
Key Recommendations

- The County currently has two network hubs, one on Eastern Ave and one at the data center at Downey. The Downey network hub will need to be moved to the new data center or another location as part of the migration.
  - Proximity to the second network hub (currently at Eastern) should be considered when selecting the location for the new facility.
- Moving the Downey data center and consolidating departmental data centers will require changes and upgrades to the Enterprise Network. ISD should conduct a network capacity assessment to determine the needed changes, funding and timeframe.

- **Key Actions Required**
  - Allocate funds for moving network and telecommun-ications hub
  - Develop an Enterprise Network Capacity and Reconfiguration Plan
  - Allocate funds for network upgrades identified by the Plan
  - Complete required upgrades

How will the consolidation be sequenced & executed?

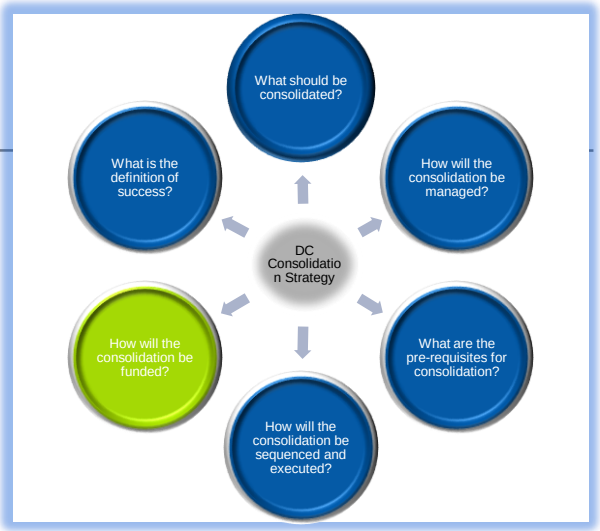
Key Recommendations

- Due to its aging infrastructure and inadequate resiliency, the County's primary data center at Downey should be the first data center to migrate to the new primary data center.
- The DCC PMO should determine a migration sequence for the departmental data centers. In determining the sequence, the following factors should be considered:
  - Size of the data center
  - Quality and age of the data center
  - Timing of current lease agreements
  - Business needs of the departments
  - Opportunities to take advantage of hardware lifecycle investments
- CIO and ISD must develop minimum standards for determining which equipment will be replaced vs. relocated during the migration to the new facility.

- **Key Actions Required**
  - Develop a migration plan for Downey.
  - Determine the parameters to develop a migration sequence of departmental data centers.
  - Require each department to inventory their equipment and develop a migration plan
  - Develop a county-wide migration plan for departmental data centers
  - Develop standards for replacing vs. relocating equipment

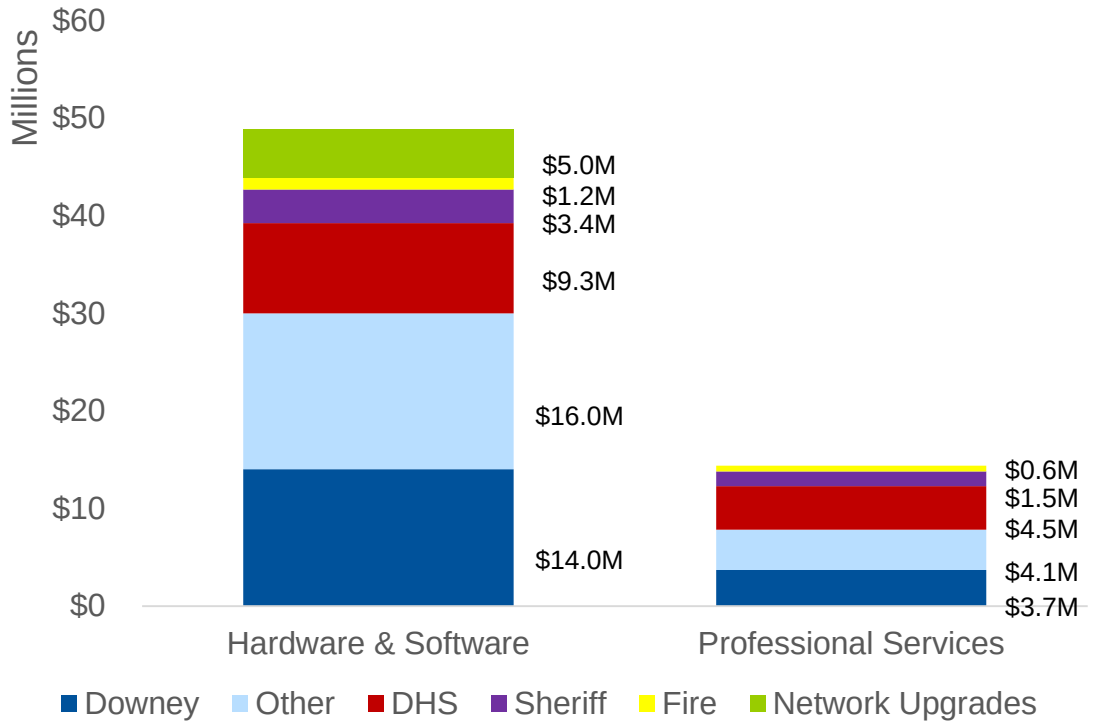
How will the consolidation be funded?
Key Recommendations

- The Data Center migration should use both departmental and centralized funding sources.
- Departments should generally be responsible for consolidating into the new data center.
  - Where possible normal equipment and software lifecycle management expenditures should be accelerated or delayed in order to reduce net incremental migration costs.
- Centralized funding should be provided for infrastructure with enterprise-wide benefits, including:
  - Establishing and operating the DCC PMO.
  - Annual lease cost of the new data center and transition costs of operating two data centers.
  - Reconfiguring the Enterprise Network to support the data center migration.
  - Acquiring the new data center and core IT infrastructure.
  - Migrating Systems in Downey to the new data center.
- Exact funding needs will be determined during the development of the Migration Plan.
  - Gartner best practice estimates for some funding needs are provided on the following slide.



- **Key Actions Required**
  - Determine centralized funding needs
  - Board allocation of centralized funding
  - Instruct departments to develop migration budgets
  - Stop funding improvements to current departmental data centers

Preliminary estimates for migration costs include approximately $50 million for hardware and software and $15 million for labor and professional services



Plus or minus 25% variance

Preliminary rough estimates

- Key Assumptions:
  - All storage is Tier I (most expensive)
  - 30% of storage will be refreshed
  - Budget of $5M for building out the core network at data center
  - 430 critical applications (based on data collection efforts)
    - Each application will be tested for latency prior to migration
  - 40% of servers will be refreshed or used as seed equipment
  - Cost do not include:
    - reconfiguration of WAN
    - Transition cost of operating 2 sites
    - New network hub
  - These costs may be mitigated by utilizing LRC with a stage transition of applications from Downey.

What is the definition of success?
Key Recommendations

- In order to gauge the success of the project once it is complete, the County needs to determine its criteria for success upfront.
- The County's primary criteria for success are:
  - Migrating out of ISD Downey into a Tier III primary facility by December 2017.
  - Consolidating and decommissioning all departmental data centers into centralized, virtualized and shared infrastructure with minimal exceptions, by January 2020.
- The County should consider a number of additional criteria including:
  - Improvements to service delivery and disaster recovery
  - Improvements to security
  - Improvements in ISD service offerings
  - Cost reduction in ISD service offerings
  - Improvements in regular departmental satisfaction surveys
- Baselines for these additional criteria (and potentially other criteria) should be established by the DCC PMO.

- **Key Actions Required**
  - Establish and document success criteria.
  - Determine current state (baseline) of criteria, where applicable.

Summary of Key Aspects of the Consolidation Strategy

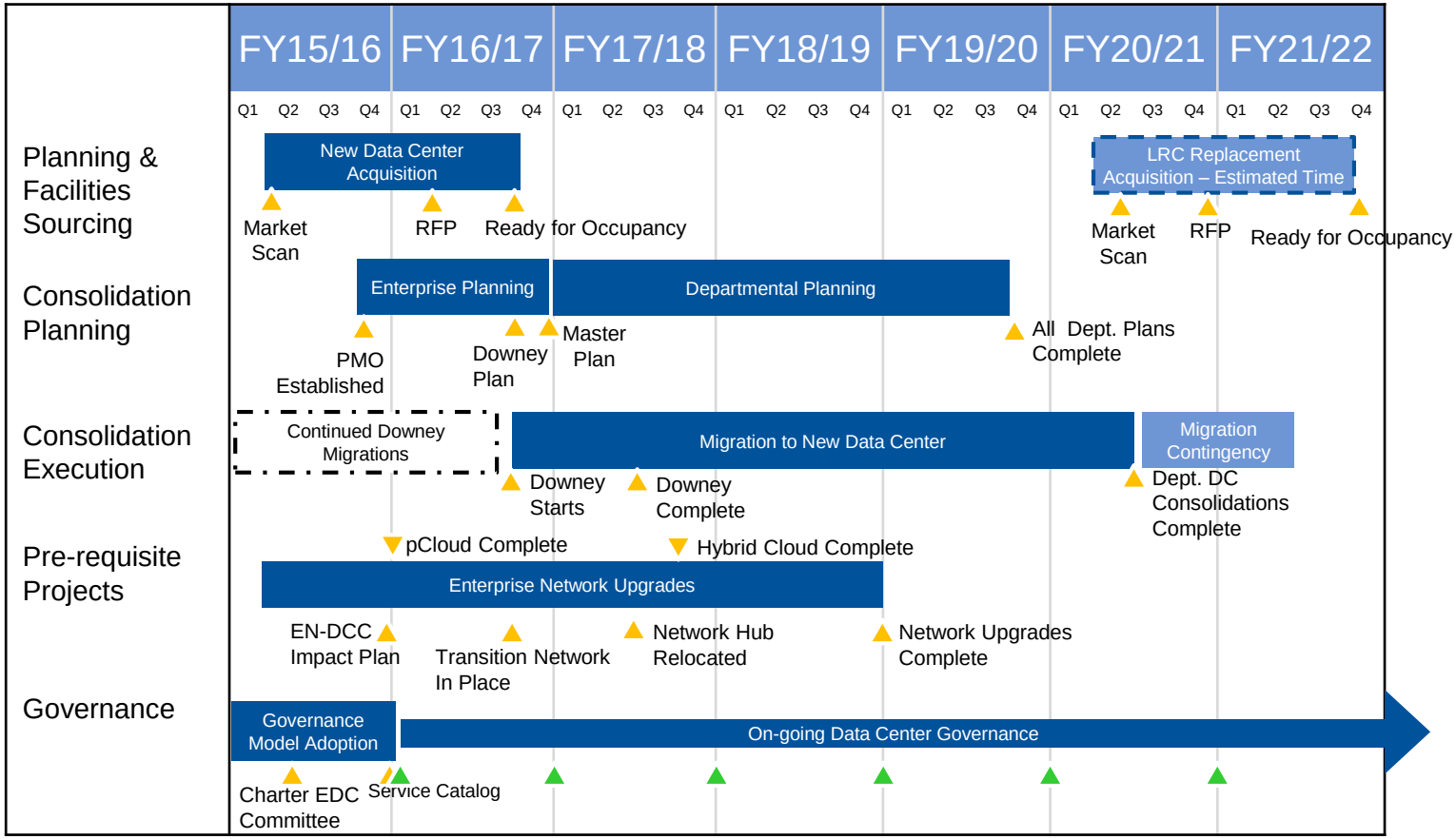
- The County will consolidate and decommission all County departmental data centers into a single, centralized and virtualized shared infrastructure at the new data center and a designated recovery data center.
- The CIO's Office and ISD should establish independent and accountable Project Management Offices (PMOs) to plan, manage, and provide ongoing and independent oversight over the data center consolidation effort.
- The County will fund the central costs of the migration, departments will be responsible for funding their individual migrations.
- ISD needs to make upgrades to the Enterprise Network prior to the start of the data center migration.
- The priority of migration is to retire the ISD Downey data center. Sequencing of departmental migrations will be based on specific parameters and will be determined and monitored by the DCC PMO.
- The primary success criteria of the project is to migrate out of ISD Downey by December 2017, and out of all departmental data centers by January 2020.

Roadmap

The Roadmap was developed based on a few key assumptions

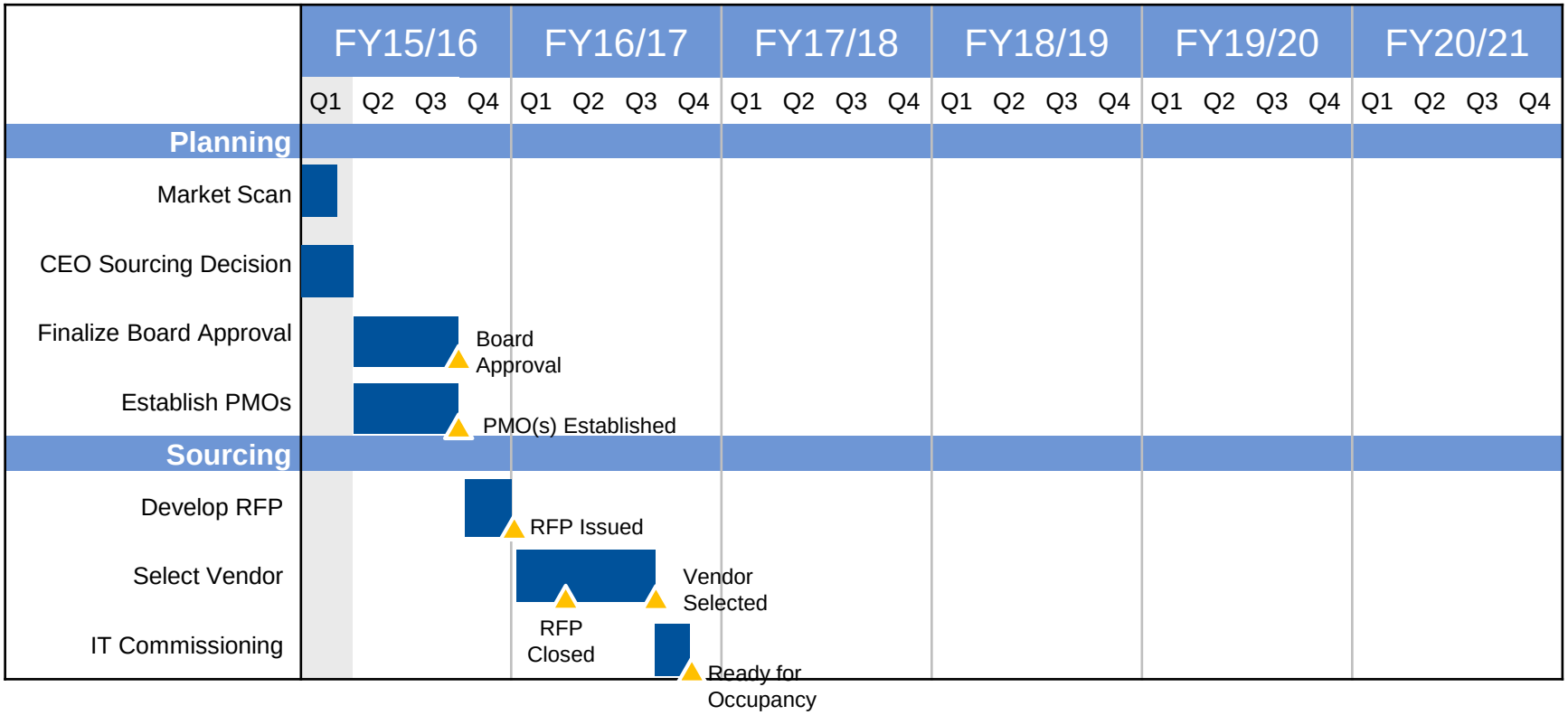
- The County's primary goal is to replace ISD's Downey data center in the next three years.
- The County wants to complete the consolidation of the IT components contained in ~47 department data centers into the new Primary data center within the next 5 years.
- The County will seek to rent space in an existing commercial data center co-location facility for its new primary data center.
- The new governance model will be adopted and the Enterprise Data Center Steering Committee by October 2015.
- DCC strategic and funding decisions will be complete by December 2015.
- The County will be able to end its contract with Orange County for LRC once the consolidation is complete and select a new recovery center.

The Gartner team developed a five-year roadmap outlining the various tasks and timelines to implement the data center consolidation strategy and governance model



Detailed timelines are provided for each work stream for the next five years

DCC Planning and Facility Sourcing



Planning Overview

Description

- Planning for replacing the Downey data center and accommodating the consolidation most of the County's 47 existing departmental data centers.

Key Activities

- The current CIO project provides strategic planning for the future capacity, business and technical requirements for the data center.
- Using the future requirements provided in the CIO project, the CEO project will make the build vs. rent vs. lease decision.
- A subsequent project will develop budgetary estimates for DC acquisition and subsequent migration program.
- The CEO and CIO's offices will gain Board Approval of the plan and budget estimates, including required centralized funding.
- This will establish and fund both and ISD and Enterprise Project Management Offices (PMO) offices to oversee the consolidation program.

Resources

- CEO is responsible for finalizing the build, lease, lease to suit decision (per Board motion).
- ISD and CIO will provide advisory roles as needed in finalizing the decision and selecting the vendor.
- The Office of the CIO should establish the DCC PMO.
- Key participating departments, including ISD should allocate project management resources to the PMO.

Timeline

- The CEO has recommended to the Board that the County select the co-location option for sourcing their new primary data center.
- Over the next six months the Board must accept this recommendation and the PMOs should be established

Dependencies

- Completion of Current CIO Project effort.

Facility Sourcing – New Primary Data Center Overview

Description

- Sourcing of a new primary data center to accommodate the County's current and future needs based on the analysis done by Gartner and further analysis by the CEO.

Key Activities

- Issue an RFI to scan the market for possible options that would accommodate the County's future requirements.
- Issue an RFP for a new facility based on market scan and future state requirements.
- Select vendor. (If decision is to build or lease to suit, will need time to select location, design the data center and build it.)
- Finalize contracts for build or leasing of co-location space.
- Formally place order for required initial space, power and related services/equipment.

Resources

- CEO is responsible for selecting a site and vendor to accommodate the County's needs (per Board motion).
- ISD and CIO should provide advisory roles as needed in selecting the site and vendor.

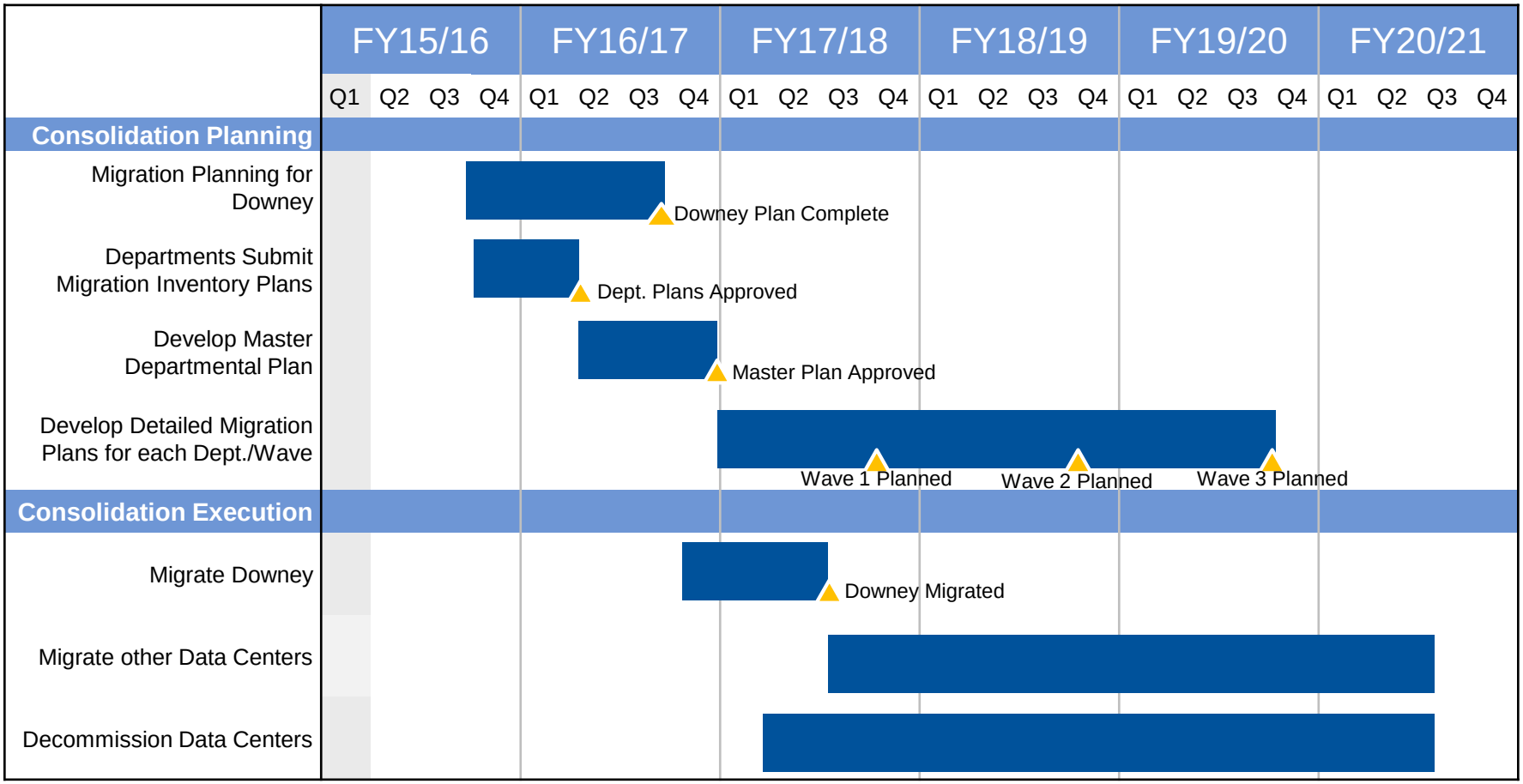
Timeline

- Assuming the Board accepts the CEO's co-location recommendation, the County will develop an RFP and select a co-location vendor by Mar. 2017

Dependencies

- Completion of Current CIO Project effort.

Consolidation Planning & Execution Timeline



Consolidation Planning Overview

Description

- Activities require to plan the consolidation of data center assets from Downey and 47 existing data centers (exclude LRC) to the new Primary County Data Center.
- This also includes managing, monitoring, and reporting on the overall data center consolidation program, requesting and allocating funding and resources, resolving scheduling priorities and conflicts, sharing knowledge/expertise across departments, and establishing County-wide DCC migration framework/methodology for execution.

Key Activities

- Establish and staff DCC PMO under CIO's office.
- Establish master DCC plan with framework, methodology, and best practice guidelines for departments to follow.
- Collect and validate departmental DCC plans.
- Prioritize order of consolidation, funding, resource requirements and timeline.
- Request the required centralized funding and/or assist departments with planning required budgets.
- Work with the ISD program office on scheduling and timelines for readiness of the new County primary data center.
- Coordinate migration planning from Downey into the new site.
- Update migration plans based on DCC experience.

Resources

- Centralized funding shall be provided to support the DCC PMO, Downey migration, and some departmental migrations.

Timeline

- Enterprise Planning (including Master Plan and Downey Migration Planning) - Jun. 2017
- Consolidation Planning for Departmental Waves – Mar. 2020

Dependencies

- Completion of Current CIO DCC Strategy Project.
- Completion of Facility Sourcing Planning Phase.

Consolidation Execution Overview

Description

- Migration of IT equipment located in Downey or any of ~47 departmental data centers into centralized, virtualized and shared infrastructure at a new primary data center.
- Decommissioning of Downey data center and ~47 departmental data centers.

Key Activities

- Coordinate continued departmental consolidation into Downey to maintain the current consolidation momentum.
- Coordinate the migration of all IT equipment and services from the Downey DC into the new Primary DC with ISD's PMO.
- Coordinate consolidation of IT equipment located in ~47 departmental data centers into the new Primary DC according the sequence determined during the Consolidation Planning phase.
- Ensure that all IT equipment is decommissioned in the County data center.

Resources

- DCC PMO
- ISD PMO
- Departmental resources assigned to migration.
- Centralized funding shall be provided to support the DCC PMO and Downey migration.

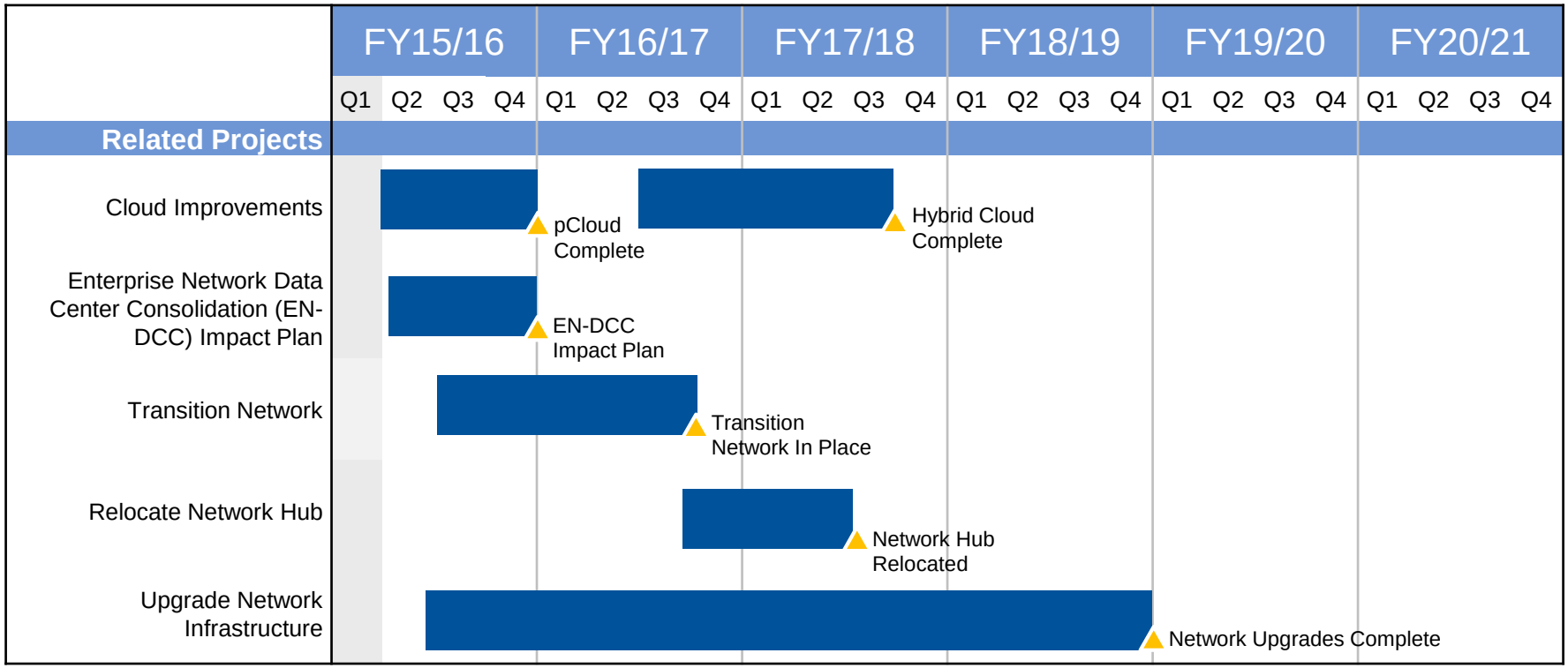
Timeline

- Migration of Downey complete – Dec. 2017
- Migration of departmental data centers complete – Dec. 2020.

Dependencies

- Acquisition of the New Primary Data Center.
- Completion of Consolidation Planning.
- Build Out of IT Infrastructure in the New Primary DC.

Pre-requisite Projects Timeline



Prerequisite Projects Overview

Description

- Ensure that all related projects and the prerequisites for successful completion of the data center consolidation are identified and addressed. Monitor and track all major departmental IT projects that could impact the future state data center requirements.

Key Activities

- Establish guidelines by which all new departmental IT initiatives and their impact on the consolidation project are shared with EDC Steering Committee and DCC PMO.
- Completion and operationalization of the virtualized POWER private cloud (pCloud) and virtualized storage shared infrastructure offerings.
- Assess performance of departmental mission critical applications and the required post consolidation County wide area network improvements to address performance needs.
- Establish high speed reliable transitional connectivity between new Primary DC, EN, Downey and LRC.
- Implement the required network improvements, including relocating existing Downey network hub.

Resources

- ISD technical teams
- DCC PMO office
- ISD and CIO should provide advisory roles as needed

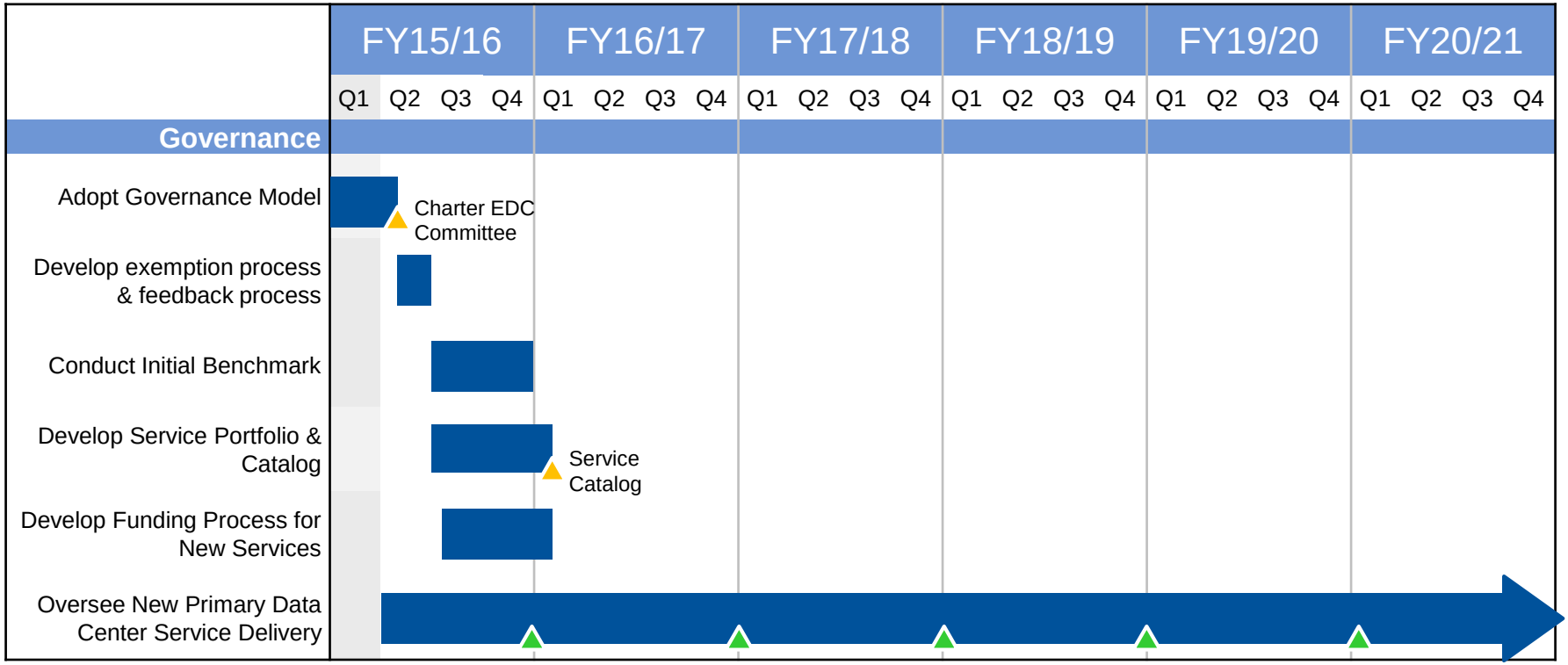
Timeline

- Completion of pCloud and virtualized storage - 1 year.
- Develop Hybrid cloud option to supplement existing eCloud capabilities.
- Determine impact of DCC on EN and design/implement other network improvements – 1-3 years.

Dependencies

- Board direction and availability of funding

Governance Timeline



Governance Overview

Description

- Provide a governance model for that ensures transparency and departmental input into the service offerings and pricing at the new primary data center.

Key Activities

- Adoption of currently proposed governance model and chartering of EDC Steering Committee.
- Develop process for reviewing and approving/rejecting requests for exemption to consolidation.
- Create process for departments to provide feedback on service offerings.
- Conduct first benchmark and create structure for annual benchmark.
- Develop a Service Catalog and Portfolio using the current services as a baseline. Determine a funding method for new services and service levels and reporting metrics for key services.
- Oversee the acquisition of and migration to the new primary data center.

Resources

- The steering committee will have 11 voting members
  - 2 each appointed by ISD (non voting) and the CIO's Office
  - 7 elected by the CIO's on the CIO Leadership Council (2 year staggered terms, 3 CIOs will serve an initial 3-year term)
- Chaired by one of CIO's Office representatives

Timeline

- The new governance model should be adopted by September 2015, with the new EDC Steering Committee formed by November 2015.
- The first annual benchmark should begin in January 2015.
- The first Service Catalog should be complete by June 2016.

Dependencies

- None

Contacts

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Appendix

Data Centers are Ranked According to Their Reliability

The Uptime Institute is a global international standards organization that created the following tier system to rank data centers according to their reliability

	Description	Common Usage Models
Tier I: Basic	• Single points of failure exist which can result in unscheduled outages. • Single path for power and cooling distribution will require scheduled outages for maintenance • No redundant components, therefore replacement of parts can prolong outage	• Non critical systems • Test and development • Disaster recovery • High Performance and Scientific Computing where downtime can be tolerated • Applications that are distributed among multiple data centers such as internet search engines
Tier II: Some Redundant Components	• Redundant components can reduce time to recovery • Not all single points of failure are eliminated, therefore unexpected outages are still possible • Single path for power and cooling distribution will require scheduled outages for maintenance	• Critical systems that are active/active at more than one DC • Disaster recovery • Engineering and product development • Local manufacturing sites • Satellite data centers
Tier III: Concurrently Maintainable	• Multiple power grids or continuous on-site generation capability • Multiple power and cooling distribution paths, but only one path may be active • Redundant components and distribution paths are configured as concurrently maintainable, thereby eliminating any scheduled outage for maintenance.	• Mission critical applications • E-Commerce sites • Co-location and managed services with contractual SLAs • Primary corporate data centers • Global centers where downtime cannot be scheduled
Tier IV: Fault Tolerant	• Multiple power grids or continuous on-site generation capability • Multiple active power and cooling paths • Redundant components are concurrently maintainable and fully fault tolerant.	• Extensive financial transactions • Large financial institutions • Insurance industry • Some co-location and managed services providers

pCloud Definition

pCloud is a cloud infrastructure built on the IBM P-Series utilizing the AIX operating system and its virtualization capabilities. PCloud similar to eCloud will enable automated provisioning and orchestration of compute, network, and storage capabilities. It will also enable additional capabilities for DR by enable workload transitioning and recoverability between data centers. The initial implementation of pCloud will provide the self-provisioning capabilities to system administrators. In the future this capability will be extended to end users.

County of Los Angeles
CHIEF EXECUTIVE OFFICE
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 713, Los Angeles, California 90012
(213) 974-1101
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SACHI A. HAMAI
Interim Chief Executive Officer

June 24, 2015

To: Mayor Michael D. Antonovich
Supervisor Hilda L. Solis
Supervisor Mark Ridley-Thomas
Supervisor Sheila Kuehl
Supervisor Don Knabe

From: Sachi A. Hamai
Interim Chief Executive Officer

STATUS REPORT ON COUNTYWIDE DATA CENTER CURRENT STATE ASSESSMENT AND FUTURE STATE REQUIREMENTS (ITEM NO. 3, AGENDA OF SEPTEMBER 30, 2014)

This status report is prepared in response to the September 30, 2014, joint Board Motion by Supervisor Ridley-Thomas and Supervisor Don Knabe, wherein the board directed the Chief Information Office (CIO) in coordination with the Chief Executive Office and Internal Services Department (ISD) to report on the following tasks (summarized):

1. Recommendation regarding the County's current requirements for a data center,

2. Recommendation on whether the County's data center needs should be satisfied by acquiring, leasing, or constructing a new facility,

3. Recommendation on a policy direction to consolidate departmental data centers in a virtualized centralized model, and

4. Recommendation for a countywide consolidation policy, five-year consolidation roadmap, and an operations governance process for the new data center.

Task 1 is complete. A report was submitted to your Board on March 31, 2015. Tasks 2, 3 and 4 are in progress. This status report outlines actions taken to date on the tasks remaining to be completed.

Recommendation on whether the County's data center needs should be satisfied by acquiring, leasing, or constructing a new facility

KNN Public Finance has been retained to assess the long-term financial, logistical and operational impacts associated with acquiring, leasing or constructing the new County data center. However, before KNN can complete this analysis, information in addition to what was provided in task 1 of this effort is required. In particular, we have retained Gartner, Inc. to expand on their Task 1 effort and provide the comprehensive information specific to the County's needs and the Los Angeles real estate market required to recommend the most beneficial and cost effective option. We anticipate this task will be completed by August 31, 2015.

Recommendation on a policy direction to consolidate departmental data centers in a virtualized centralized model

The CIO's office and ISD are working with the CIO Council to develop a Technology Directive to consolidate departmental data centers in a virtualized centralized model. The Technology Directive will address the requirement for the consolidating departments to decommission their data centers, as part of the consolidation, and development of a draft Charter for a County Data Center Steering Committee.

Recommendation for a countywide consolidation policy, five-year consolidation roadmap, and an operations governance process for the new data center

The CIO's office and ISD are working with Gartner to finalize a five-year consolidation roadmap and data center operations governance process for the new data center. The five-year consolidation roadmap will provide recommendations regarding how to plan, sequence, fund and manage the consolidation effort. The governance model will include a County Data Center Steering Committee to focus on transparency and alignment with the departments' data center computing needs and interests. The recommended five-year consolidation roadmap and governance model will be vetted with the CIO Council Leadership Committee and briefed at the Operations Cluster meeting prior to submitting to the Board by July 31, 2015.

If you have any questions or need additional information, please contact Tom Tindall, CEO Central Services, at (213) 893-2374.

SAH:JJ:TT
acn

c: Executive Office, Board of Supervisors
County Counsel
Chief Information Office
Internal Services Department

CHIEF INFORMATION OFFICE
Los Angeles World Trade Center
350 South Figueroa Street, Suite 188
Los Angeles, CA 90071

Telephone: (213) 253-5600
Facsimile: (213) 633-4733

RICHARD SANCHEZ
CHIEF INFORMATION OFFICER

March 3, 2016

To: Supervisor Hilda L. Solis, Chair
Supervisor Mark Ridley-Thomas
Supervisor Sheila Kuehl
Supervisor Don Knabe
Supervisor Michael D. Antonovich

From: Richard Sanchez
Chief Information Officer

COUNTYWIDE DATA CENTER GOVERNANCE CHARTER

This is the third and final response to the September 30, 2014, joint Board Motion by Supervisor Ridley-Thomas and Supervisor Don Knabe, wherein the Board directed the Chief Information Officer (CIO), in conjunction with the Chief Executive Office (CEO) and the Internal Services Department (ISD), to perform the following actions in support of obtaining a countywide data center:

1. Identify and contract with, under an existing Master Services Agreement (MSA), an independent third-party agency or firm with a physical presence in the region that specializes in data center design and implementation in order to provide a written report to the Board of Supervisors within 120 days, with a comprehensive and realistic recommendation regarding the County's current requirements for total and raised floor space, and power and utility needs for a data center;

2. Instruct the CEO to contract with a second independent third party agency or firm to assess and analyze the short and long-term financial, logistical, and operational impacts associated with acquiring, leasing, or constructing a data center that meets the needs defined above. The selected agency or firm should be experienced and familiar with California's building code requirements for data center design and construction, possess a deep and practiced understanding of the County's real estate market, and provide a recommendation of the most beneficial and cost effective option;

3. Adopt a policy direction to consolidate departmental data centers in a virtualized centralized model; and

4. Instruct the CEO, CIO, ISD's Information Technology Services, and Departmental CIOs to form a committee and report back in writing to the Board

within 90 days with a Countywide consolidation policy, five-year consolidation roadmap, and an operations governance process for the new data center.

On November 12, 2014, your Board authorized the CEO to execute a Work Order with Gartner Consulting under the Strategic Planning MSA to:

- Conduct an assessment of the Downey Data Center (DDC), the Local Recovery Center, and approximately 65 departmental computing centers to document the computing requirements to support the development of a data center consolidation strategy; and

- Develop a data center consolidation strategy that takes into consideration the replacement of the DDC, consolidation of most of the County's approximately 65 departmental data centers, and industry best practices to accommodate growth and contemporary computing technologies.

On March 31, 2015, a report was submitted that outlined the County's Current State Assessment, Data Center Inventories, Data Center Assessments, Future State Vision and Future State Requirements.

On October 2, 2015, a second report was submitted outlining the recommended Data Center Governance Model, Consolidation Strategy and Five-Year Roadmap.

The attached report addresses item 4 of the Motion affecting the operations governance process with a Data Center Governance Charter. This Charter has been vetted and agreed to by CIO Council Leadership Committee members, as illustrated by a signature page of all members accompanying the Charter.

DATA CENTER GOVERNANCE CHARTER

The Data Center Governance Charter is the result of an iterative process between the CIO, ISD, Departmental CIOs and Gartner. It was developed using industry best practices, understanding current County processes and focusing on key County IT goals of Alignment and Agility, Value and Quality, and Transparency.

The Governance Charter will be administered by the Enterprise Data Center Steering Committee, which will provide structured feedback from customer departments to ISD. The initial Steering Committee will be comprised of members from the CIO Council Leadership Committee, however, the Charter outlines the future selection and membership requirements.

The Charter is intended to serve as an operating process model for the Steering Committee with clear delineation of roles and responsibilities of the Steering Committee,

ISD as the service provider, CIO and customer departments. It also outlines the process for amending the Charter as business and technology needs change.

If you have any questions or require further information on this matter, please contact either myself or Peter Loo of my staff at 213.253.5627 or PLoo@cio.lacounty.gov.

RS:PL:HB:lc

Attachments

c: Chief Executive Office
Executive Office, Board of Supervisors
Internal Services Department

Los Angeles County

Office of the Chief Information Officer

Data Center Consolidation

Enterprise Data Center (EDC)
Steering Committee Charter
Initial Version March 1, 2016

Table of Contents

I. Executive Summary

This Charter develops a Governance Model for the LA County Enterprise Data Center (EDC) and creates an independent Enterprise Data Center Steering Committee to administer the governance processes.

The Charter outlines the intent, principles, and structure of the EDC Governance Model including the relationship between the EDC Steering Committee (EDC SC) and other key County IT agencies such as the County Chief Information Officer's (CIO) Office and the Internal Services Department (ISD). Background information about the Board mandate creating the EDC is also included for full context. The County's three goals for the LA County EDC Governance Process are:

- Alignment and Agility – Ensures that EDC service offerings, investments, and strategies are aligned with County needs and able to evolve as necessary
- Value and Quality – Promotes standardization, consolidation, high value, and high quality of data center service offerings
- Transparency – Allows visibility into EDC service offerings and prices for both Customer Departments and ISD and in comparison to other organizations and providers

The Charter is intended to serve as an operating manual for the EDC Steering Committee. Detailed operating rules and procedures describe: who will comprise the EDC Steering Committee and how they will be appointed or elected to the Committee; how and when decisions will be made and through what structures; how recommendations will be communicated, implemented, and enforced; and how this Charter can be modified and updated to keep it in line with County needs and priorities.

The Charter provides a clear description of the EDC SC's powers and responsibilities and delineates them from those of the CIO's Office and ISD. The EDC SC will only govern processes specifically named in the Charter and will govern the processes according to the identified mandates, described roles and responsibilities, and depicted process workflows. The initial EDC SC Governed Processes are:

- EDC Services and Pricing Structures
- EDC Rebates and EDC Central Funding
- EDC Service Performance and Customer Issues
- EDC Consolidation Exemptions
- EDC Service, Service Levels, and Pricing Benchmark

The CIO, EDC SC, and ISD can add services to the scope of this governance process by mutual agreement. Any changes to or additions of services will be communicated to all customer departments.

For more information about this Charter, please contact Henry Balta at HBalta@cio.lacounty.gov or (213) 253-5622.

II. EDC Governance Overview

A. Purpose of this Document

A joint motion by Supervisors Mark Ridley-Thomas and Don Knabe, adopted by the Board of Supervisors in September 2014, instructed the County Chief Information Officer (CIO) – in consultation with the Internal Services Department (ISD) – to provide the Board with a written report outlining the County's current data center situation along with a strategy and requirements for a consolidated County data center.

The County CIO completed an assessment of LA County's existing data centers and made recommendations for the County's future data center needs, including the need for a consolidated data center.

The scope of this effort was to:

1. Evaluate options for replacement of ISD's Downey Data Center;
2. Analyze Data Center strategy alternatives available to the County;
3. Ensure that the recommended solution could accommodate consolidation of most of the County's existing 49 data centers while accommodating future growth and factoring in: virtualization, anticipated changes in information technologies, continuity of operations, and industry best practices; and
4. Develop an operations governance process for the new data center.

This Charter addresses the fourth objective of the motion, the development of a Governance Model for the proposed enterprise data center

B. Key Terms Used throughout this Document

- **County Chief Executive Officer (CEO's Office or CEO)** – For the purposes of this Governance charter, the CEO's office is the County entity responsible for overseeing the County from a budgetary and administrative perspective.

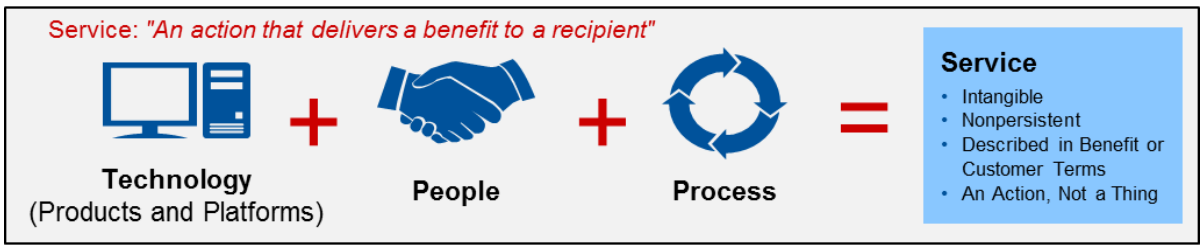
- **County Chief Information Officer (CIO's Office or County CIO**) – The CIO is the County's senior-most information technology (IT) leader. The CIO's office is responsible for setting County-wide IT standards and policies, coordinating IT activities among the various departments, monitoring the progress of IT projects and initiatives, reviewing proposed departmental IT expenditures for compliance with board policy and technology standards, and other activities as directed by the Board or the CEO.

- **Internal Services Department (ISD) –** ISD provides Information Technology, Facilities, Energy/Sustainability and Purchasing services to the County and acts as the Purchasing Agent. ISD's Information Technology Service (ITS) has code responsibility as the IT agency, as designated by the Board of Supervisors, to design, install, plan and operate the County's Data Center and Communications Systems. ITS operates a large portfolio of IT Services including the Enterprise Network and a number of IT Shared Services for the Enterprise Data Center.

- **Enterprise Data Center (EDC)** – The County's data center operated and controlled by ISD. Per Board direction, IT equipment and software contained in current ISD and departmental data centers will be consolidated into the EDC. As outlined in the Data Center Strategy reports provided to the Board, the EDC will consist of two primary County-operated facilities

supported by a remote data bunker. As currently envisioned, all three of these facilities will be long-term leases rather than County-owned buildings. However, the IT infrastructure (applications, compute, storage, networking, security, etc.) will be owned and operated by the County).

- **Data Center Consolidation** – The act of moving all data center related services to high quality, centralized and shared County data center facilities (e.g. the EDC) and the decommissioning of departmental data centers.
- **Customer Department** – Departments within the County that consume EDC services. ISD has a dual role as the EDC Service Provider and a Customer Department.
- **Enterprise Data Center Services** – A business service offering provided from the EDC that includes all core and ancillary services of value to the Customer Department consuming the service. The figure below provides a conceptual illustration of an end to end service.



Most data center services are shared services, meaning that the same service is provided across multiple Customer Departments using a common infrastructure or shared staff resources.

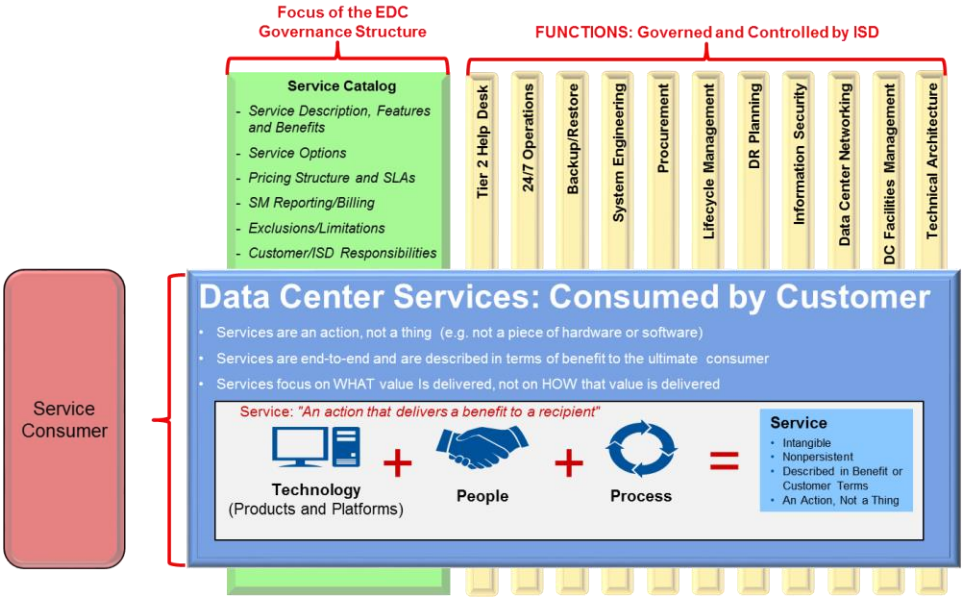
  - LA County's eCloud is an excellent example of a shared data center services

- **EDC Steering Committee –** The new governance body established by this document, and chaired by the CIO, will be accountable for providing governance over the EDC. The specific scope, powers and responsibilities of the EDC Steering Committee are described elsewhere in this document.
- **Enterprise Virtualized Shared Infrastructure Services** – This is a specific type of data center service which is centrally managed and maintained by ISD and is delivered to the Customer Departments as a "cloud-like" consumption based service. Variable levels of cybersecurity, back up, archival, disaster recovery capabilities and technical support services may be included depending on the services option to which the Customer Department has subscribed.

  - LA County eCloud is an example of a Virtual Shared Infrastructure Service.

- **Governance** – Governance is the processes, decision rights and organization structures to define ***what*** decisions need to be made (domains), ***who*** has decision and input rights (roles), and ***how*** decisions are formed and enacted (tools and structures). This document is the Charter for the EDC Governance process.
- **Operating Model –** The operating model defines how resources (e.g. financial, human, vendor, and IT assets) are acquired, organized, deployed, and managed in order to deliver services to Customer Departments. The conceptual operating model for the EDC and the

role that the EDC Governance Process (defined by this document) will play is illustrated in the diagram below.



The key aspects of the EDC operating model are as follows:

- **Internal Services Department –** The EDC physical facilities, IT infrastructure (hardware and software) and supporting third party services will be acquired, configured, and operated by ISD for the benefit of Customer Departments. ISD will also be responsible for acquiring, training, and ensuring the performance of County staff and others required to deliver these services effectively and economically. ISD's FUNCTIONS will be leveraged to provide a specific set of EDC services agreed to with the Customer Departments. ISD will recover any non-centrally funded costs associated with delivering the EDC services from the Customer Departments.
- **Customer Departments –** The Customer Departments will be the consumers of most of the EDC services. The Board mandated that all Customer Departments consolidate their separate data centers into the EDC.
- **EDC Governance Process –** The EDC governance process is the mechanism through which the Customer Departments will exert influence over the EDC services that they receive. This process is described in additional detail throughout this document.

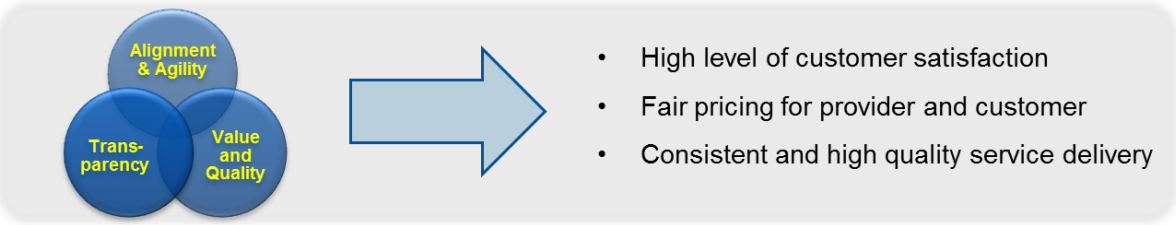
Key aspects of the EDC services which will be controlled by this governance process will, at a minimum, include the following:

- **Services Definitions –** Service definitions describe what is included in the service including:
    - Specific technical and functional features, including any limitations or exclusions;
    - Minimum operating requirements to consume the service at the defined service levels
    - Service levels (availability, reliability, time to repair, support hours/response times, time to provision, etc.);

  - Roles/responsibilities of ISD vs. the Customer Department in service delivery and service consumption;
  - Available service options (see below); and
  - Pricing structures (see below)
- **Service Options –** Service options describe the choices that Customer Departments can make when ordering services. These options might include extra features, such as providing a data center service with or without Disaster Recovery, Monitoring or Security Services, or options for different service/performance levels (e.g. gold, silver or bronze)
- **Service Levels –** Service level objectives will be established by the governance process for all in-scope EDC services. Service levels may cover availability, reliability, provisioning, support, and other aspects of the service which are important to the Customer Departments. ISD will be responsible for reporting the actual performance of the services (against the established service objectives) to the EDC SC on a bi-monthly basis.
- **Pricing Structures –** Pricing structures determine how the Customer Departments will be charged for using the services. For purposes of this document, pricing structures are inclusive of the following: granularity of charges, frequency of charges, methods/formulas for calculating charges, and how charges will be shown or reported to Customer Department on “bills”.
  - Note: The actual prices charged to Customer Departments are not covered by this governance process. The prices for the services will be determined by ISD based on ISD’s cost recovery and pricing methodologies which are overseen by the CEO’s office.

C. Goals of EDC Governance

The County has defined three key goals for the LA County EDC Governance Process in order to set the foundation for the Enterprise Data Center. These goals are intended to provide the Customer Departments with a high level of confidence that EDC services will be competitively priced, delivered consistently with high quality, and that they will be continuously aligned with evolving business needs.



1. Alignment & Agility

This goal ensures that Enterprise Data Center service offerings, investment plans, and strategies are aligned with Customer Department needs, overall County IT strategic direction, industry trends and best practices, and that these services can rapidly evolve to meet new business or technology needs.

2. Value and Quality

This goal promotes the standardization, consolidation, and quality of data center services (e.g. eCloud, email, server, storage, and mainframe). It also ensures responsive customer service, consistent delivery, and competitive pricing that maximizes value to Customer Departments.

3. Transparency

This goal provides both Customer Departments and ISD with insight into data center service offerings and pricing. It calls for EDC services, associated service levels, and pricing to be independently benchmarked against (e.g. compared with) similar organizations and with the commercial marketplace.

D. EDC Governance Process Guiding Principles and Expected Benefits

The County's CIO Leadership Committee developed and utilized the following guiding principles in its development of the EDC Governance Process.

Principle	What this means
Be simple and direct	Aligned with existing County governance bodies/processes Clear roles and responsibilities Minimal process and bureaucracy
Evolve over time	Allow for continuous improvement and operational efficiency
Comprehensive scope	EDC Service delivery – service definitions/features, service delivery options (gold, silver, bronze & etc.) and service level expectations/objectives EDC price and value transparency – service pricing structures and service pricing EDC service innovation and demand management
Inclusive and balanced decision-making	Involvement spans across multiple departments and functions Decisions by consensus where possible, majority voting where required Voting membership of EDC governance bodies comprised primarily of EDC service Customer Departments
Scalable and extensible	Allows for additional services or members to be added in the future

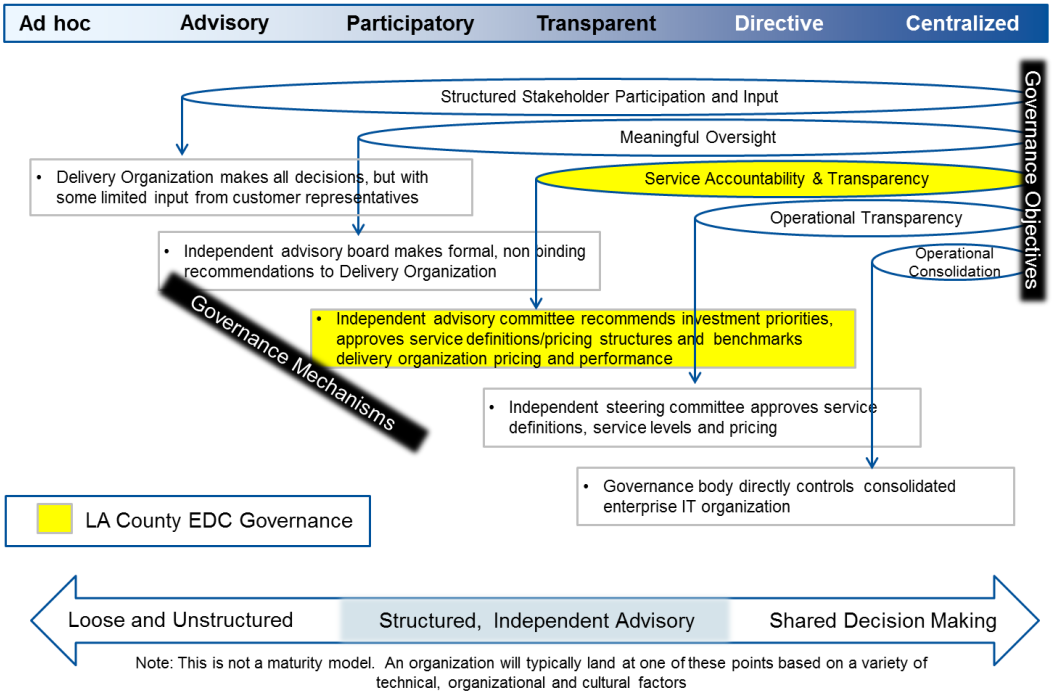
In developing the EDC governance process the County was also mindful of the benefits that will accrue to different sets of County stakeholders once the Data Center Consolidation process is complete. Those benefits are summarized in the figure below.

Board/CEO	Departments	ISD	CIO
✓ Lower security and disaster recovery risks ✓ All departments provided with consistent and high quality data centers ✓ Lower overall County IT costs due to economies of scale ✓ Lower departmental resistance to data center consolidation ✓ Avoid further investments in sub-standard DC facilities ✓ Improved insight into ISD service pricing	✓ Lower disaster recovery risks and/or costs ✓ More predictable services and pricing ✓ Capability to focus on departmental business needs (out of the commodity DC business) ✓ Input into the development and evolution of services, including prioritization of EDC investments ✓ Collective method for holding ISD accountable for service levels and responsiveness ✓ Ability to understand how EDC services and pricing align with peer organizations and outside service providers	✓ Improved understanding of current and future customer needs ✓ Better insight into customer perception of services delivered ✓ More demand for DC capacity along with a more predictable growth pattern ✓ Improved ability to communicate VALUE proposition to customer departments ✓ Opportunity to adjust pricing methodologies and consider centralized funding investment opportunities	✓ Use of EDC can unlock additional consolidation or standardization opportunities ✓ Increased capability to implement enterprise initiatives ✓ Leadership opportunity to bring Departments and ISD together collaboratively ✓ Consolidated spending can improve leverage with key vendors

E. Governance Options Considered

The County considered a continuum of Enterprise shared services governance structures before settling on the model outlined in this document. In looking across the continuum of options available, the County has selected the Transparent Model. This model is focused on balancing the operational leadership by the shared services provider with maximum service provider accountability and transparency for the customers.

Governance models that were considered are depicted in the figure below.

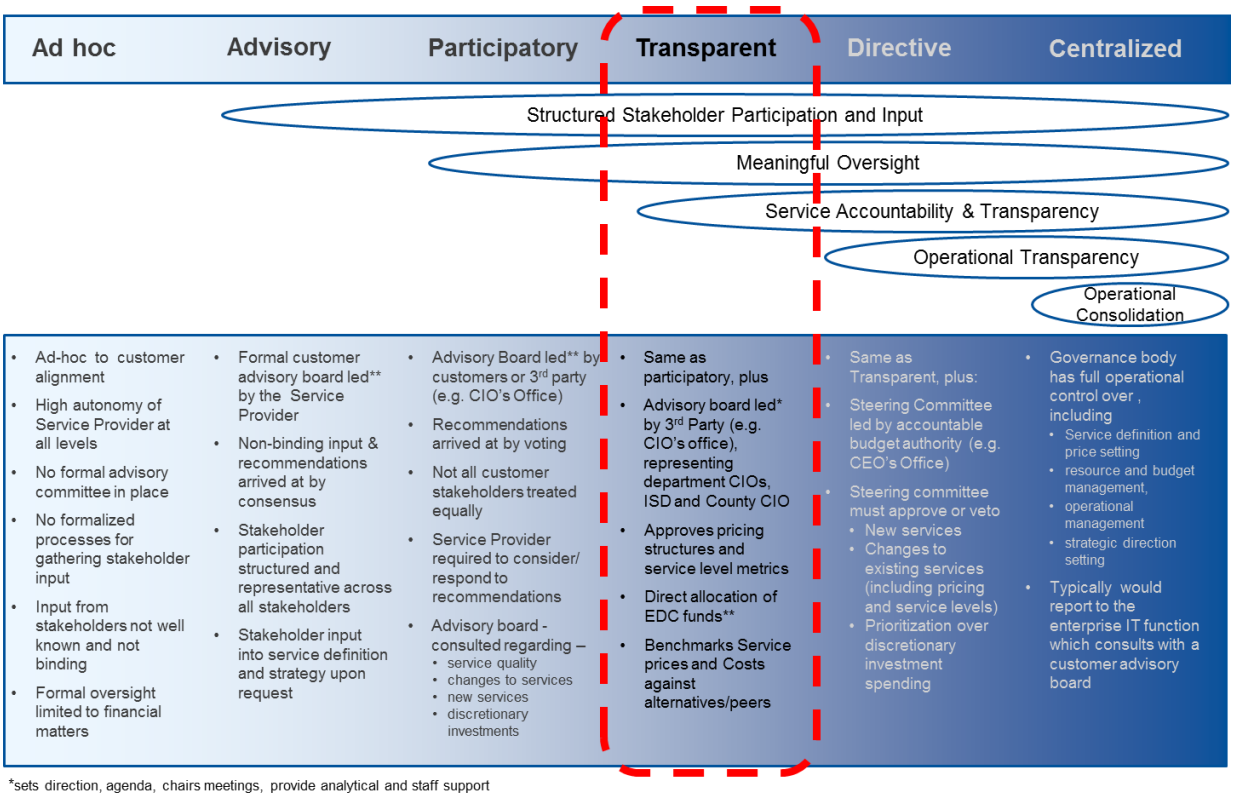


F. Transparent Governance Model Overview

The Transparent governance model provides the highest level of stakeholder influence over the EDC while ensuring that ISD remains fully accountable for the services that they provide to the

Customer Departments. The figure below summarizes the key aspects of the Transparent model when compare with the other governance model options. The key aspects of the transparent model are as follows:

- Customers speak with one voice, through a formal EDC Steering Committee, chaired by an independent party (e.g. the County CIO's office), and whose voting membership is comprised primarily of Customer Departments.
- ISD is required to consider/respond to formal recommendations or other requests from the EDC Steering Committee.
- ISD is required to seek the approval of the EDC Steering Committee for any new EDC services or changes to existing EDC services.
- The EDC Steering Committee will provide recommendations to the CEO's Office on how EDC central funding or other non-departmental funding sources would be best spent. It will also review and recommend how ISD customer rebate funds could be allocated.
- The EDC Steering Committee is empowered to recommend granting of Customer Department exemptions from the Board's mandate to consolidate all department data centers and data center service into the EDC under specific conditions. (See Section IV.D.1.i. of this document for details.) Recommendations will be made to the County CIO's Office.
- On an annual basis, the EDC Steering Committee will engage an independent third party to conduct a benchmark of ISD's EDC services and compare them in terms of service features, service levels, pricing structure, and service pricing with those of other similar internal service providers and with the commercial marketplace. Results will be shared with customer departments..
- ISD will provide Customer Departments with direction and guidance on physical and mechanical operating requirements in the EDC (e.g. physical security, cooling equipment, power).



The Transparent Model also provides the best alignment with the County's three (3) EDC governance goals as illustrated below.

Figure 1. EDC Governance Goals

The transparent model provides formal mechanisms for Customer Departments to provide collective feedback to and receive responses from ISD on both new and existing services.

This model provides a mechanism for departments to work through a process to receive an exemption from the County consolidation mandate under certain conditions.

This model ensures that new services and changes to existing data center services (including related funding) are aligned with customer needs.

This model provides a mechanism for obtaining independent assessments of the quality and cost effectiveness of ISD's services when compared to other internal and external providers.

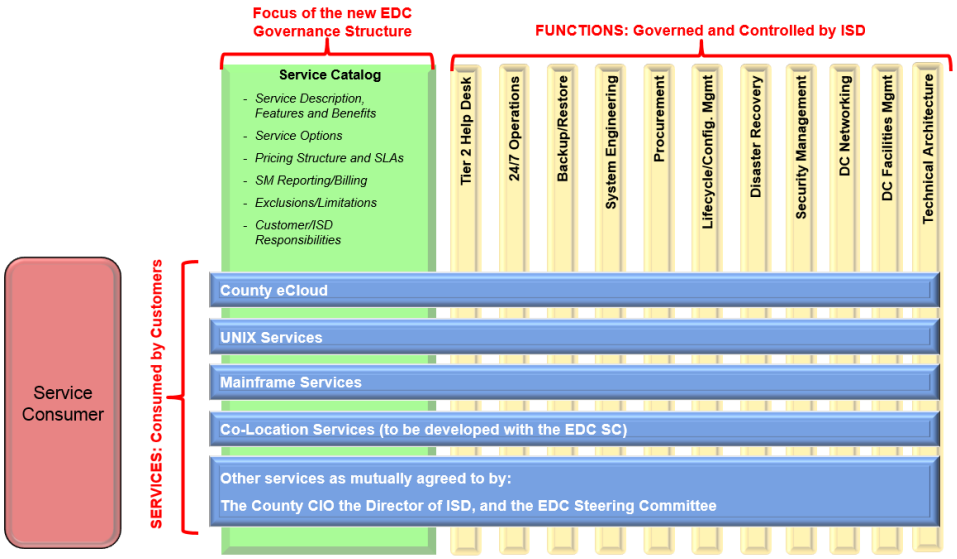
G. Scope of Services

Although ISD is responsible for providing many different services to the Customer Department, the scope of this governance process is limited specifically to shared infrastructure services provided by or from the Enterprise Data Center.

The scope of the services to be governed by the EDC Steering Committee include all services provided by or from the EDC including:

- Physical and Virtual Server Hosting and Managed Services including County eCloud and UNIX Services
- Mainframe Application Hosting Services
- Data Center Co-Location Services (to be developed with the EDC SC)
- Other services as mutually agreed to by the County CIO, the Director of ISD, and the EDC Steering Committee

These services will be delivered within the context of the Operating Model previously described in this document and illustrated in the figure below:



ISD will continue to be 100% responsible and accountable for the delivery of the services, including determining how the services are delivered and organizing all internal and external activities required to accomplish successful service delivery. ISD will continue to determine the price that the Customer Department will be required to pay ISD for the services.

The EDC SC will work with ISD on defining what services are delivered, the features and service levels associated with provisioning of these services, what different service options will be offered and the pricing structure (e.g. by virtual server). ISD will continue to determine the price of services.

In addition, the EDC Steering Committee will have the following additional responsibilities:

- Provide the Customer Departments with a formal forum for escalating EDC issues and concerns and for making EDC related requests to ISD.
- Provide ISD and the Customer Department with a forum for reviewing EDC performance and for discussing any operational issues.

- Provide guidance on how any EDC central funding or other non-departmental funding sources could be best spent and also recommend how ISD customer rebate funds should be allocated.
- Recommend and grant/deny Customer Department requests for exemptions from the Board's mandate to consolidate all department data centers and departmentally provided data center services into the EDC.
- Engage an independent third party organization to conduct a benchmark of ISD's EDC services and compare them in terms of service features, service levels, pricing structures, and pricing against those of other similar organizations and with the commercial marketplace.

Summary of the responsibilities and decision rights of the parties participating in the Governance Process

The decision rights and accountabilities for the EDC governance process are summarized in the RACI diagram below. The parties defined involved are:

- EDC SC – EDC Steering Committee as established by this charter
- ISD – Information Technology Service, a sub organization within the LA County Internal Services Department
- CIO's Office – Office of the Los Angeles County Chief Information Officer
- Depts – Customer Departments who are consuming EDC services

The roles involved are:

- Responsible – Those who do the work to achieve the task. There is at least one role with a participation type of responsible, although others can be delegated to assist in the work.
- Accountable (also approver or final approving authority) – The one ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. In other words, an accountable must sign off (approve) work that responsible provides. There must be only one accountable specified for each task or deliverable.
- Consulted – Those whose opinions are sought, typically subject matter experts; and with whom there is two-way communication.
- Informed – Those who are kept up-to-date on progress, often only on completion of the task or deliverable; and with whom there is just one-way communication.

In the EDC Governance process, the EDC Steering Committee is accountable for the definition of new or changed EDC services, which include Service Descriptions, Service Levels and Pricing Structures. The EDC SC is also accountable for providing guidance on certain types of EDC investments. ISD remains accountable for the actual delivery of the services.

The County CIO is accountable for working with ISD and the Customer Departments to perform an annual independent benchmark of the EDC services as well as for recommending any Data Center Consolidation exemption requests to the Board for consideration. In the performance of this role, the County CIO may delegate authority to grant such requests to the EDC SC.

Description	EDC-SC[1]	ISD	CIO's Office	Dept's[2]
Determine Overall County IT Strategy	C	C	A,R	C
Determine what EDC Services to Use		I	C	A,R
Deliver EDC Services		A,R	C	I
Define/Change EDC Services	A	R	C	I
Define Functions supporting EDC Service Delivery	C	A,R	C	I
Monitor EDC Service Performance	C	A,R	C	I
Define/Prioritize EDC discretionary Investments	A	R	C	I
Direct Allocation of EDC funding[3]	A,R	C	C	I
Approve EDC Mandate Exemptions[4]	C	I	R	I
3rd Party Benchmark EDC Services	C	C	A,R	I

[1] EDC Steering Committee (SC) – compilation of members elected from the CIO Council

[2] The Departments are consulted through various other channels, including CIO Council, CIO Leadership Council, and throughout their department leadership / peers, etc.

[3] Refers to central EDC funding and customer rebates. ISD has administrative responsibility for EDC funds

[4] The Board is Accountable for approving exceptions

R = Responsible **C** = Consulted
A = Accountable **I** = Informed
(see definitions in Appendix)

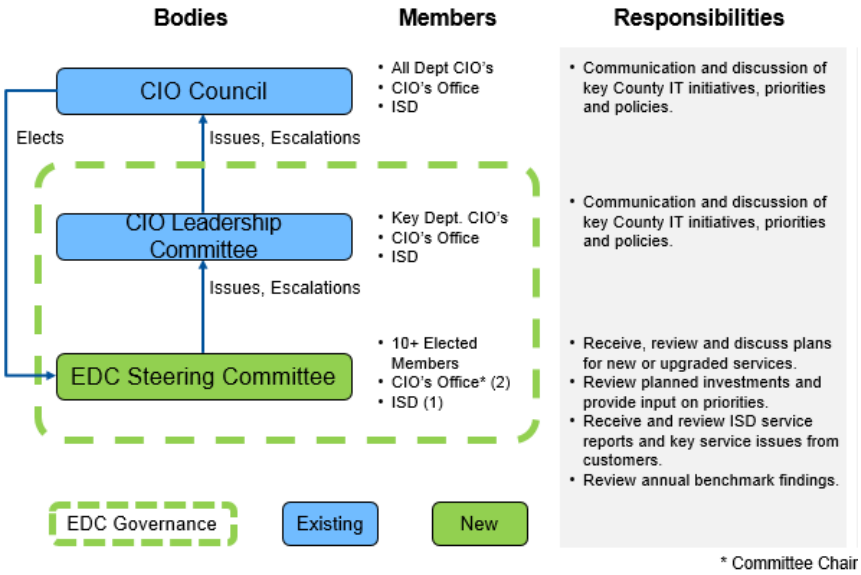
H. EDC Governance Structure and Relationship to Other Entitites

This document establishes a new governance body which will be called the EDC Steering Committee. The EDC Steering Committee will be composed of ex-officio, appointed and elected members. Each member will have one vote when determining formal EDC Steering Committee decisions.

The County CIO will be an ex-officio member of the committee as well as its permanent chairperson. In addition, the County CIO and the Director of ISD will each appoint one member to the committee.

The remaining members will be elected by the CIO Council in accordance with the procedures outlined elsewhere in this document.

The diagram below illustrates the relationship between the EDC Steering Committee and existing related County IT governance bodies.



I. Key Activities and Responsibilities of the EDC steering committee

- Review and provide input on planned EDC service changes and/or new services proposed by ISD.
- Identify and prioritize Customer Department EDC services "needs and wants", discuss them with ISD leadership, and provide collective customer direction to ISD through a vote.
- Review planned EDC investments proposed by ISD and provide input on priorities.
- Provide recommendations to the CEO on the allocation of enterprise EDC central funding.
- Direct the allocation of ISD EDC customer rebates to specific projects and services through a vote.
- Review ISD provided service delivery reports and collectively discuss major customer incidents/issues with ISD leadership.
- Conduct and then review/discuss the results of the annual EDC Services, Service Level and Service Price Benchmark with the CIO Council, ISD, and other stakeholders (e.g. Board, CEO, etc.).
- Discuss requests by County departments for exemptions from the Board's EDC consolidation mandate and forward recommendations to approve or deny the exemptions to the County CIO for communication to the Board.

- Provide a forum where ISD and Service Consuming departments can discuss and develop strategic and tactical plans for EDC service enhancements.
- Other responsibilities as determined by the mutual consent of the EDC SC, the County CIO and the Director of ISD.

III. EDC Rules and Procedures

A. Membership

1. Initial Membership

The current CIO Leadership Committee Members will serve as the initial EDC Steering Committee Members for a period of 18 months following the adoption of this charter. This ensures consistency in the implementation of the Charter and provides the initial EDC SC with the necessary knowledge and background to amend the Charter should it not be fully operational as intended. After the initial term, membership will be determined as described below. The CIO Leadership Committee will determine whether the entire EDC LC will be up for vote after the initial term, or only a subset to allow for a staggered replacement of the initial members.

The CIO Leadership Committee shall have the option to extend the initial term through a unanimous vote for an additional 12 months.

2. Number of Members

After the initial term, the Committee will be comprised of one Ex-Officio, two Appointed, and ten (10) Elected Members as described below.

3. Ex-Officio and Appointed Members

The County CIO will be an ex-officio member of the committee as well as its permanent chairperson.

The County CIO and the Director of ISD will each appoint one member of their respective organizations to the Committee. Appointees may, but are not required to be members of the CIO Council.

4. Elected Members

The Committee will include at least two elected representatives from each of County's five service clusters – Operations, Children and Families' Well Being, Community Services, Health and Mental Health Services, and Public Safety. The only requirements for elected members are as follows:

- Elected Membership is limited to departmental CIOs (herein defined as the senior-most Information Technology manager or executive with a department) whose departments consumes EDC services
- There must be at least two representatives from each of the five (5) service clusters.
- Unless dictated by external circumstances, only one member per cluster shall be replaced at a time to ensure consistency in the EDC SC.

5. Responsibilities of Members

Committee members are expected to represent the collective best interests of all of the departments within their cluster. They are expected to look beyond their own departments interests at what is best for the County as a whole.

Committee members are expected to advocate on behalf of the EDC in order to ensure that the benefits of consolidation are achieved for all departments.

Committee members are responsible for attending Committee meetings, responding to Committee correspondence in a timely manner, obtaining necessary information to actively participate in Committee discussions, and voting on Committee issues. Members are also responsible for identifying and communicating any conflicts of interest to the Committee.

In the event that a member is no longer able to serve on the Committee for any reason, the member is responsible for apprising the Committee of his/her inability or ineligibility to serve. Under certain extraordinary conditions (i.e. formal extended medical leave for a defined period of time, temporary work assignment outside of the departmental CIO role, etc.), a Committee member may, with the consent of a majority of EDC Committee members voting at an EDC Steering Committee meeting, designate a temporary replacement who will serve as a full voting member in their absence and until their return to full Committee membership.

B. Committee Chairperson Responsibilities

The County CIO is the permanent chairperson of the EDC Steering Committee. The Committee Chairperson has certain responsibilities in addition to those of a general Committee Member.

These are:

1. Scheduling/Planning/Facilitating Meetings

The Committee Chairperson is responsible for setting the annual meeting calendar and communicating the dates and locations to all relevant parties. The Chairperson is responsible for planning for the meetings, including setting the agenda and ensuring that appropriate facilities are available. The Chairperson is also responsible for facilitating meeting procedure and discussions and meeting follow-up as necessary.

2. Documenting Results/Recommendations/Actions

The Chairperson is responsible for ensuring that Committee minutes are appropriately documented. In particular, all Committee results, recommendations, and actions must be documented. Key activities and correspondences outside of Committee meetings – including formal communications with ISD – must also be documented. Documentation should be available to Committee members at all times. Documentation should also be made available to Board and ISD representatives as requested. The Chairperson may appoint a scribe to fulfill these duties.

3. Facilitating Service Provider/EDC Communications

The Committee Chairperson is responsible for facilitating communications on behalf of the EDC Steering Committee. This responsibility includes maintaining working relationships and strong communication channels with ISD. In particular, the Chairperson is responsible for communicating with ISD regarding EDC results, recommendations, and expectations.

4. Leading EDC Escalations

In the event that an EDC escalation is necessary, the Committee Chairperson is responsible for leading the escalation. This includes formally documenting each step of the negotiation / escalation, facilitating communication with both ISD and the Board, involving/informing EDC Steering Committee members as appropriate, and ensuring follow-through on escalation resolutions.

5. Naming a Temporary Chairperson

In the event that the Committee Chairperson is absent for a Committee meeting, the Chairperson may designate any member of the CIO's office or the CIO Council to serve as Chairperson during his/her absence.

C. Quorum and Voting Procedures

A quorum of the EDC Steering Committee will be defined as a simple majority of the Elected Committee Members.

Each Committee member (ex-officio, appointed or elected) will cast one vote when making formal EDC Steering Committee decisions. Other County Employees and their guests are welcome and encouraged to attend Committee meetings and address the Committee on germane issues, however they shall not participate in voting.

Committee members may either vote yes or no, or may abstain from a vote.

Voting will be facilitated by the Committee Chairperson and votes will be visible to all Committee members. All votes will be formally documented.

1. Meeting Voting Procedure

Committee Members must receive prior written notice of a voting issue at least three days in advance of a vote at a Committee meeting. During the meeting, a quorum must be established in real-time (i.e. in-person, on-the-phone, or virtually in-real-time) for a vote to occur. If a quorum is present, the Committee Chairperson will call for a vote on an identified issue. An issue will pass if a simple majority of voting members present vote yes. Voting results will be communicated to all Committee members within seven days of the meeting where the vote occurs.

D. Terms, Vacancies, and Elections

The County CIO position has a reserved seat as the Chairperson of the EDC Steering Committee with no term and no necessary election. In the event that the County CIO position is vacant, the seat will be filled by the Interim County CIO.

Appointed Committee members have no fixed terms and can be replaced at any time by the Appointer. Appointed Committee member positions may become vacant if an appointed member leaves County employment, resigns from the Committee, or is removed by the Appointer. Regardless of the reason for the vacancy, the Appointer will appoint a new member to fill the position within seven days of the vacancy.

Elected Committee members will be elected for two-year terms with no term limits.

1. Biannual Elections

The first election will be held 18 months after the establishment of the charter and bi-annually in January thereafter. Each service cluster will be responsible for electing its own representatives and notifying the EDC Steering Committee of the election results.

Members will be elected by the CIO Council representatives of the service clusters that they represent. Members must be from departments which consume EDC services and must be members of the Los Angeles County CIO Council.

In the event that a service cluster is not able to come to agreement on one or more of their representatives, the representative(s) will be determined by a game of chance (i.e. coin flip or drawing straws) selected and administered by the County CIO.

2. Mid-Term Vacancies and Elections

Elected Committee member positions may become vacant if an elected member leaves County employment, ceases to be the CIO of his/her department and thereby loses membership in the CIO Council, or resigns from the Committee. Regardless of the reason for the vacancy, a mid-term election will be held by the service cluster in time to have a new representative at the following CIO Council meeting.

E. Meetings

1. Meeting Schedule and Cadence

EDC Steering Committee Meetings will generally take place bimonthly. There will be a minimum of six meetings per year. The specific schedule will be determined by the Committee Chairperson in consultation with Committee members. The meeting schedule will be set at the beginning of each Fiscal Year and will be communicated to all relevant parties once dates are confirmed.

2. Provision to Call Additional Meetings

The Committee Chairperson or any five members of the EDC Steering Committee may call an additional Committee meeting with a minimum of three business day's prior notice. Additional meetings abide by the same procedures as bimonthly meetings.

3. Attendance at Meetings

EDC Steering Committee Meetings are open to all Department CIOs. A Department CIO may opt to send a representative in their stead. ISD and the CIO's Office are invited to bring any members when invited to address EDC Steering Committee concerns. Department representatives other than CIO's (or delegates) may only attend if invited by the Committee Chair.

4. Meeting Agenda

Agendas will be determined by the Committee Chair in conjunction with the EDC Committee Members. Agendas are likely to include:

- Review of Agenda
- Recap of Actions from Previous Meeting
- New EDC service performance feedback / customer issues
- ISD Bimonthly Operations Report
- ISD/EDC SC progress on previously identified issues
- Voting issues

F. Working Groups

The EDC Steering Committee structure will utilize permanent and ad hoc Working Groups to conduct their work. Working Group members will consist of EDC Steering Committee members and other staff with appropriate qualifications. Working group members will be appointed by the

County CIO and confirmed by the EDC Steering Committee. Working Group members will be appointed at the beginning of the fiscal year and reappointed as necessary as vacancies or needs arise.

Working groups are responsible for conducting detailed content review of materials related to decisions to be made by the EDC Steering Committee. When requested by the EDC Steering Committee, the working group will provide analysis and recommendations as appropriate.

Permanent Working Groups will include:

- Services
- Funding and Participation
- Benchmarking

The EDC can establish additional working groups for specific tasks and durations as necessary.

Permanent Working Group	Scope	Membership
Services	Review EDC Services and Pricing Structure Review EDC Service Performance and Customer Issues	4 – 7 members Maximum of one member from each consumer department
Funding and Participation	Review EDC Consolidation Exemptions Review EDC Rebates and EDC Central Funding	4 – 7 members Maximum of one member from each consumer department
Benchmarking	EDC Service, Service Levels, and Pricing Benchmark	4 – 7 members County CIO and a maximum of one member from each consumer department

G. Charter Approval and Amendments

1. Adopting the Charter

Adopting the EDC Steering Committee Charter requires unanimous consent of the CIO Leadership Committee, approval of the Director of ISD, and notification to the CEO and the Board. The Charter must be signed by the County CIO, the Director of ISD, and the members of the CIO Leadership Committee.

The County CIO is responsible for facilitating Charter adoption.

1. Expanding the Scope of the EDC SC

Expanding the EDC Steering Committee's scope of governance requires a majority vote of the EDC Steering Committee and the consent of the County CIO and the Director of ISD.

2. Amending the Charter

Amending other portions of the EDC Steering Committee Charter requires a 2/3 vote of the EDC Steering Committee, the consent of the Director of ISD, and notification to the CEO. The County CIO is responsible for facilitating Charter amendments.

IV. EDC Governed Processes

The EDC Steering Committee will be operational prior to the completion of the new physical EDC facility. The following are the intended processes to be governed by the EDC, but all may not be fully relevant until the new EDC facilities are up and running and services have been transitioned. In particular, EDC Consolidation Exemptions will not apply until after the new EDC facility has been established.

A. EDC Services and Pricing Structures

1. Background and Relevant Mandates

The EDC Steering Committee has been granted the authority to provide direction to ISD on new EDC services and changes to existing EDC services.

i. EDC Services Covered

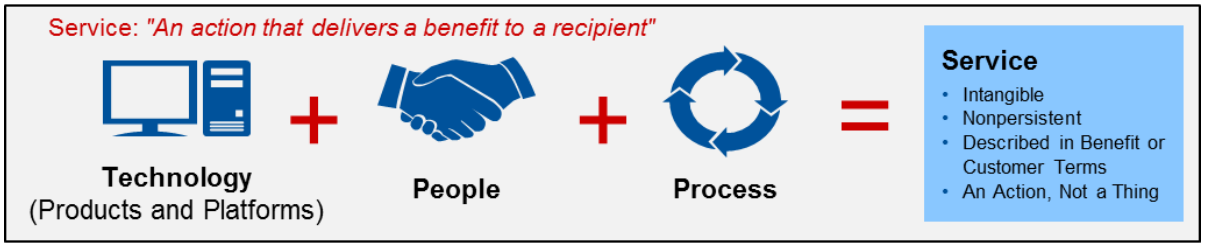
The scope of the services to be governed by the EDC Steering Committee includes all services provided by or from the EDC as presented in Section II.G. of this document.

2. Roles and Responsibilities

ISD will continue to be 100% responsible and accountable for the delivery of services, including determining how services are delivered and organizing all internal and external activities required to accomplish successful service delivery. This includes retaining the ability to manage ISD's budget, hardware, and vendors, (e.g. changing the hardware vendor supporting a shared service) and to determine the price that the Customer Department will be required to pay ISD for services. ISD retains full control over other ISD-provided services that are not EDC services. This includes specialty services for a single customer.

The EDC Steering Committee will be responsible for defining what services are delivered, the features and service levels associated with the provision of these services, the different service options offered, and the pricing methodology and structures for the services.

The division of responsibility is consistent with both the operating structures and service definition defined earlier in this document.

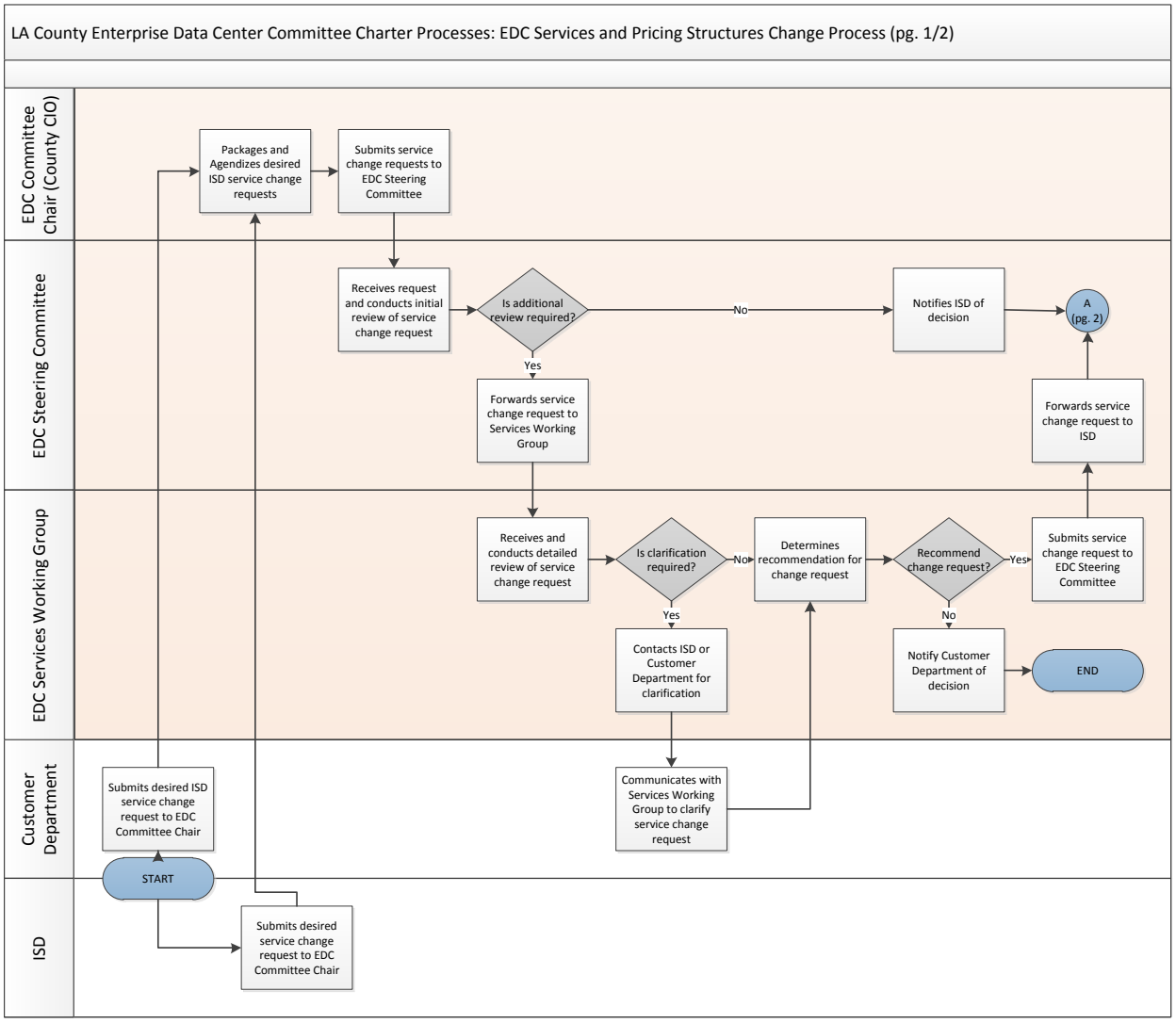


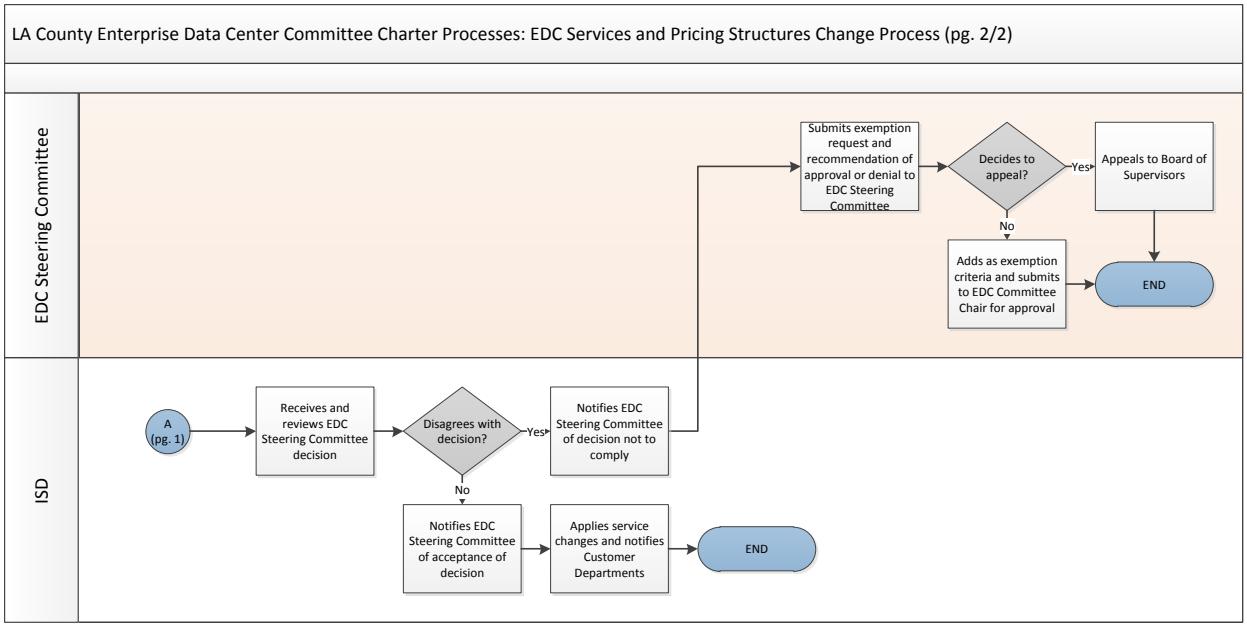
The EDC Steering Committee will be responsible for defining Service Attributes as follows:

- Service definition and features, including future direction and strategies
- Service flavors and options
  - Gold, Silver, Bronze, etc.
  - Type of service (UNIX, windows, etc.)
- Customer vs. Service provider responsibilities
- Compatibility and usage requirements

- Service levels, including availability, performance, response to incident, support hours, provisioning, etc.
- Pricing Structures (e.g. one-time, ongoing)

3. Process





B. EDC Rebates and EDC Central Funding

1. Background and Relevant Mandates

The EDC Steering Committee has been given authority to provide recommendations to the CEO on two pools of funding: 1) EDC Customer Rebates, and 2) EDC Central Funding.

ISD is mandated to maintain a net balance between the total cost of services provided to Customer Departments and the total price of services charged to Customer Departments for the fiscal year. The increased consumption of services beyond what was projected can result in a surplus that can be directly returned to the Customer Departments in the form of rebates or go to the County's General Fund.

ISD typically works with the CEO to identify amounts to be refunded. Once the CEO has agreed to a given rebate amount, ISD will present a proposal to the EDC SC of its best use.

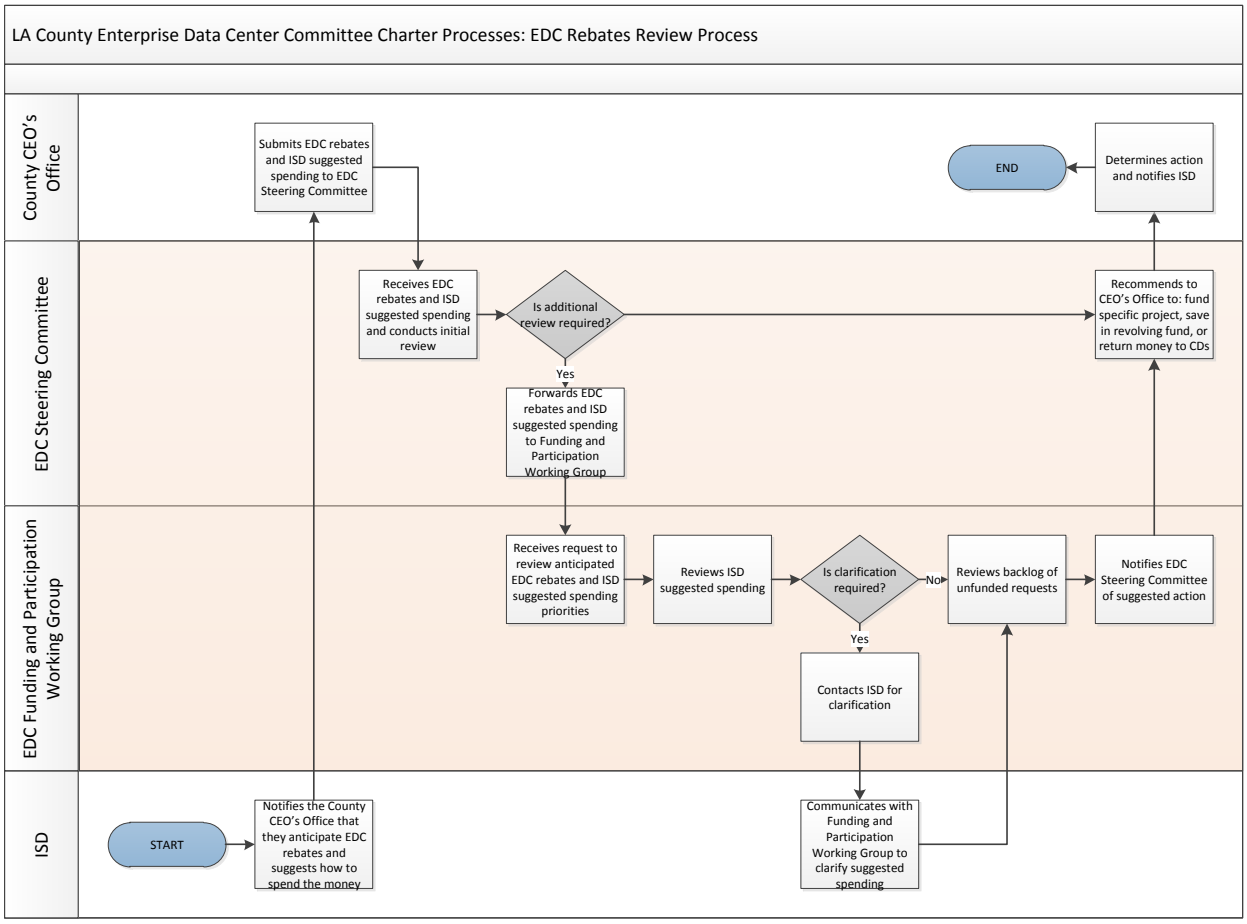
The CEO and ISD provided the Board with a recommendation on the data center operating costs, currently included in ISD rates, to be funded centrally for the EDC. The funding will cover the EDC facility and utility costs, networking and computing infrastructure, security and the County's designated recovery sites. The EDC SC may make recommendations on the use of EDC Central Funding.

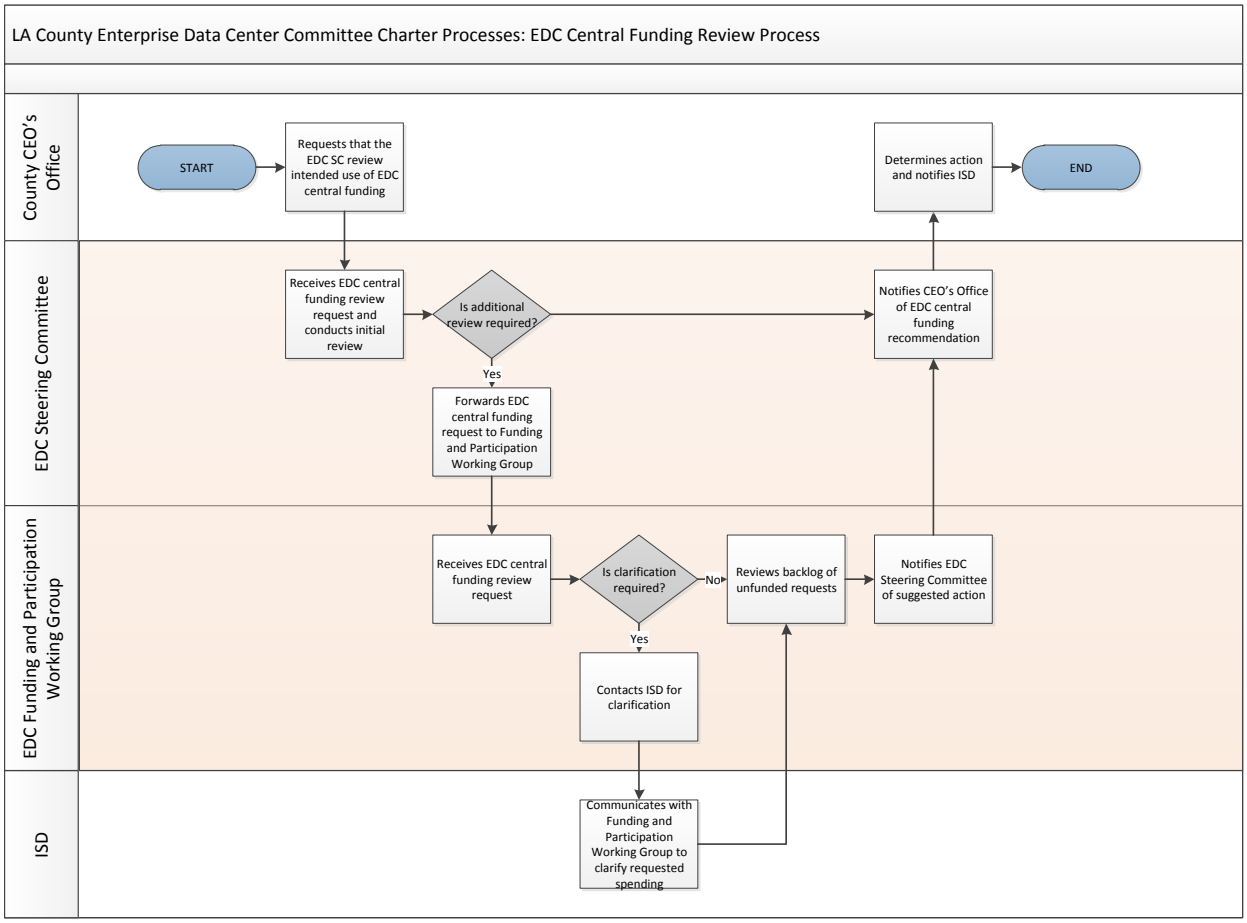
2. Roles and Responsibilities

The CEO retains the authority to direct ISD in its treatment of EDC rebates and to approve or deny EDC Central Funding requests.

The EDC Steering Committee is responsible for assisting the CEO in its decision-making regarding these pools of money by reviewing how EDC rebates may best be spent and by providing direction on EDC Central Funding.

3. Process


LA County Enterprise Data Center Committee Charter Processes: EDC Rebates Review Process
County CEO's Office
EDC Steering Committee
EDC Funding and Participation Working Group
ISD
Submits EDC rebates and ISD suggested spending to EDC Steering Committee
END
Determines action and notifies ISD
Receives EDC rebates and ISD suggested spending and conducts initial review
Is additional review required?
Yes
Recommends to CEO's Office to: fund specific project, save in revolving fund, or return money to CDs
Forwards EDC rebates and ISD suggested spending to Funding and Participation Working Group
Receives request to review anticipated EDC rebates and ISD suggested spending priorities
Reviews ISD suggested spending
Is clarification required?
No
Reviews backlog of unfunded requests
Notifies EDC Steering Committee of suggested action
Yes
Contacts ISD for clarification
START
Notifies the County CEO's Office that they anticipate EDC rebates and suggests how to spend the money
Communicates with Funding and Participation Working Group to clarify suggested spending



C. EDC Service Performance and Customer Issues

1. Background and Relevant Mandates

The intent behind the creation of the EDC Steering Committee was to develop a structured, transparent, and formal forum and process for any Customer Department to provide service performance and customer issue feedback to ISD.

2. Roles and Responsibilities

The EDC Steering Committee is responsible for creating an open forum and process to facilitate communication between ISD and Customer Departments about service performance and customer issues. This responsibility includes:

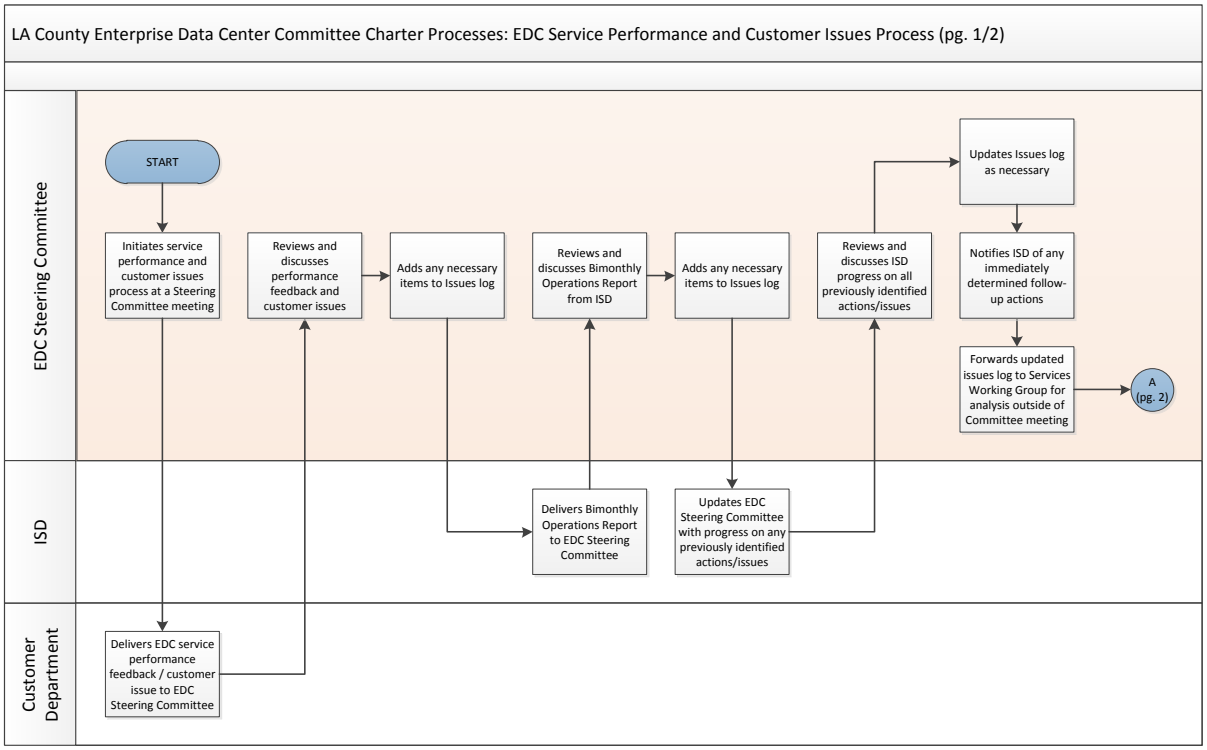
- Determining the information that must be provided with any customer feedback
- Communicating the response process to all stakeholders
- Facilitating the hearing of customer complaints
- Reviewing customer complaints
- Determining the relative priority of service performance and customer issues
- Determining the relative impact of service performance and customer issues
- Providing follow-up action items to ISD following complaints
- Managing a comprehensive Issues log

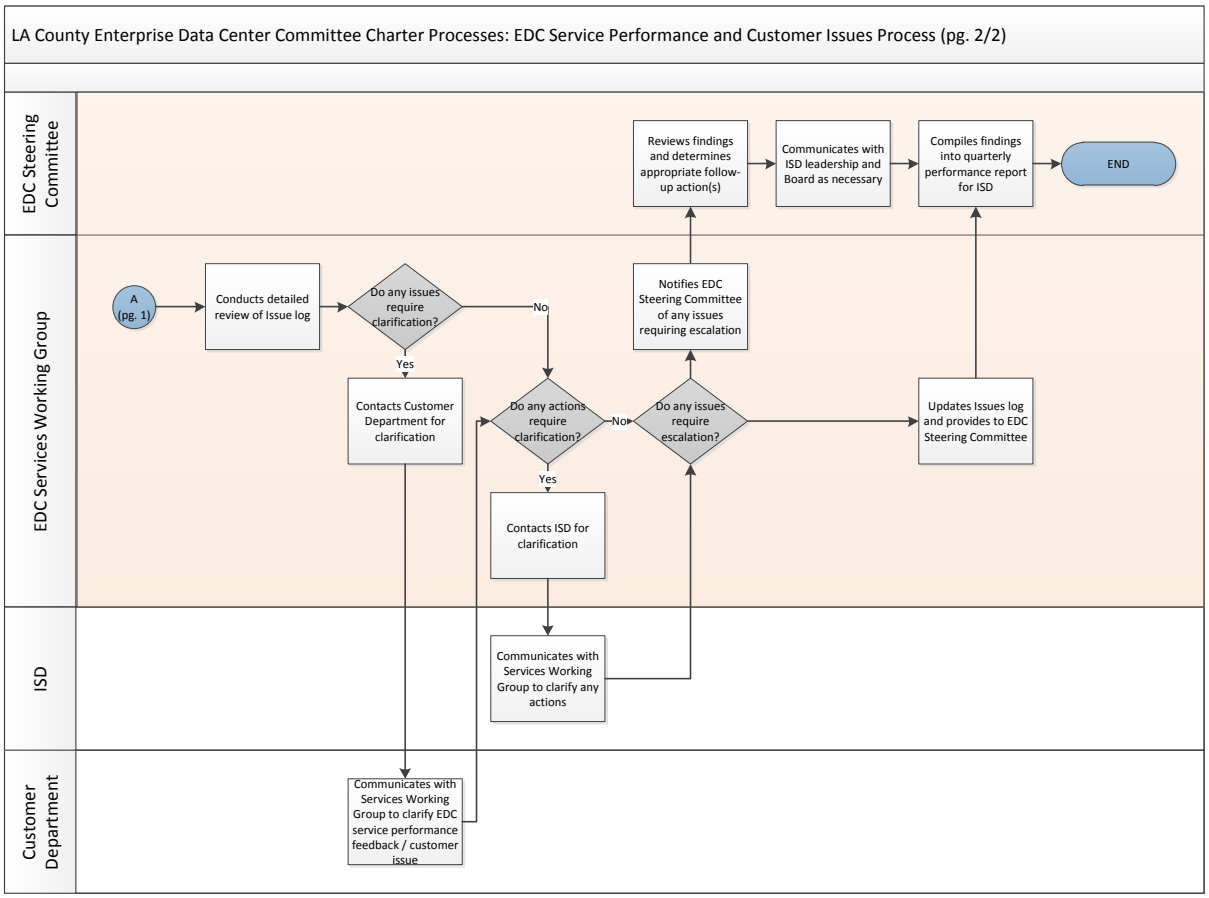
- Tracking complaints and issues in the log including: issue description, priority (importance), and impact (consequence if not resolved)
    - Priority (for being formally addressed by ISD)
        - High priority – should be addressed before the next meeting
        - Medium priority – should be addressed at the next meeting
        - Low priority – should be formally documented and addressed at some point in the future
    - Importance (for determining the order in which issues are discussed)
        - High importance – directly impacting Customer Departments' important EDC services including major service or budget impacts
        - Medium importance – indirect or potential/future impact on Customer Departments EDC services, including budget impact
        - Low importance – other issues
- Tracking required and completed ISD action items in the log including: responsible party for follow-up, identified follow-up actions, and date for follow-up to be completed
- Collectively discussing major customer incidents/issues with ISD leadership

ISD is responsible for generating and providing the EDC Steering Committee with a Bimonthly EDC Operations Report detailing service delivery and performance levels. ISD is also responsible for responding to action requests recommended by the EDC Steering Committee in a timely and accurate manner in order to effectively respond to any identified service performance or customer issues.

Customer Departments should continue to use ISD's existing problem and incident reporting processes and utilize the EDC SC process for escalations and any exceptions that require additional review.

3. Process


LA County Enterprise Data Center Committee Charter Processes: EDC Service Performance and Customer Issues Process (pg. 1/2)
EDC Steering Committee
ISD
Customer Department
START
Initiates service performance and customer issues process at a Steering Committee meeting
Reviews and discusses performance feedback and customer issues
Adds any necessary items to Issues log
Reviews and discusses Bimonthly Operations Report from ISD
Adds any necessary items to Issues log
Reviews and discusses ISD progress on all previously identified actions/issues
Updates Issues log as necessary
Notifies ISD of any immediately determined follow-up actions
Forwards updated issues log to Services Working Group for analysis outside of Committee meeting
A (pg. 2)
Delivers Bimonthly Operations Report to EDC Steering Committee
Updates EDC Steering Committee with progress on any previously identified actions/issues
Delivers EDC service performance feedback / customer issue to EDC Steering Committee


LA County Enterprise Data Center Committee Charter Processes: EDC Service Performance and Customer Issues Process (pg. 2/2)
EDC Steering Committee
EDC Services Working Group
ISD
Customer Department
A (pg. 1)
Conducts detailed review of Issue log
Do any issues require clarification?
No
Yes
Contacts Customer Department for clarification
Do any actions require clarification?
No
Yes
Contacts ISD for clarification
Communicates with Services Working Group to clarify any actions
Communicates with Services Working Group to clarify EDC service performance feedback / customer issue
Notifies EDC Steering Committee of any issues requiring escalation
Do any issues require escalation?
Reviews findings and determines appropriate follow-up action(s)
Communicates with ISD leadership and Board as necessary
Compiles findings into quarterly performance report for ISD
END
Updates Issues log and provides to EDC Steering Committee

D. EDC Consolidation Exemptions

1. Background and Relevant Mandates

The Board of Supervisors has established the following mandates regarding County-wide consolidation efforts:

- All IT data center equipment (i.e. servers, storage, applications, network switches, etc.) must be located in the County Enterprise Data Center.
- Any IT data center equipment currently located in departmental data centers must be relocated to the County Enterprise Data Center within five years of signing a data center lease agreement.
- All departments must consolidate into the County's virtualized and shared infrastructure (i.e. eCloud, etc.) in accordance with the data center consolidation five-year roadmap.

Customer Departments may apply for exemptions from these mandates.

i. Exemption Criteria

Exemptions from physical consolidation into the Enterprise Data Center will be based on the following criteria:

- Equipment for which a valid business reason has been established for locating it in an acceptable third party or cloud data center. Acceptable third party or cloud data centers must be certified and approved for use by the County CIO. Valid business reasons are limited to:
    - Equipment that is part of a larger outsourcing arrangement under which the third party is managing the application and infrastructure for the County
- Equipment that is housed in recently constructed, high quality, Tier III data centers that have the proven capability to support departmental requirements over the next five years.
- Business needs for key systems to be in data centers located in hardened emergency response or command centers – to be granted on an application by application basis.
- Agreement between both the County CIO and ISD that the County's Enterprise Data Center is unable to meet specific Departmental needs (i.e. service levels, regulatory requirements, technical requirements, etc.)
- A true "apples to apples" cost and risk comparison validated by the County CIO and reviewed with the EDC Steering Committee indicating that there is a significant and material difference and that the County's Enterprise Data Centers are not the most effective use of County resources.

Exemptions for consolidating into an Enterprise Virtualized, Shared Environment will be based on the following criteria:

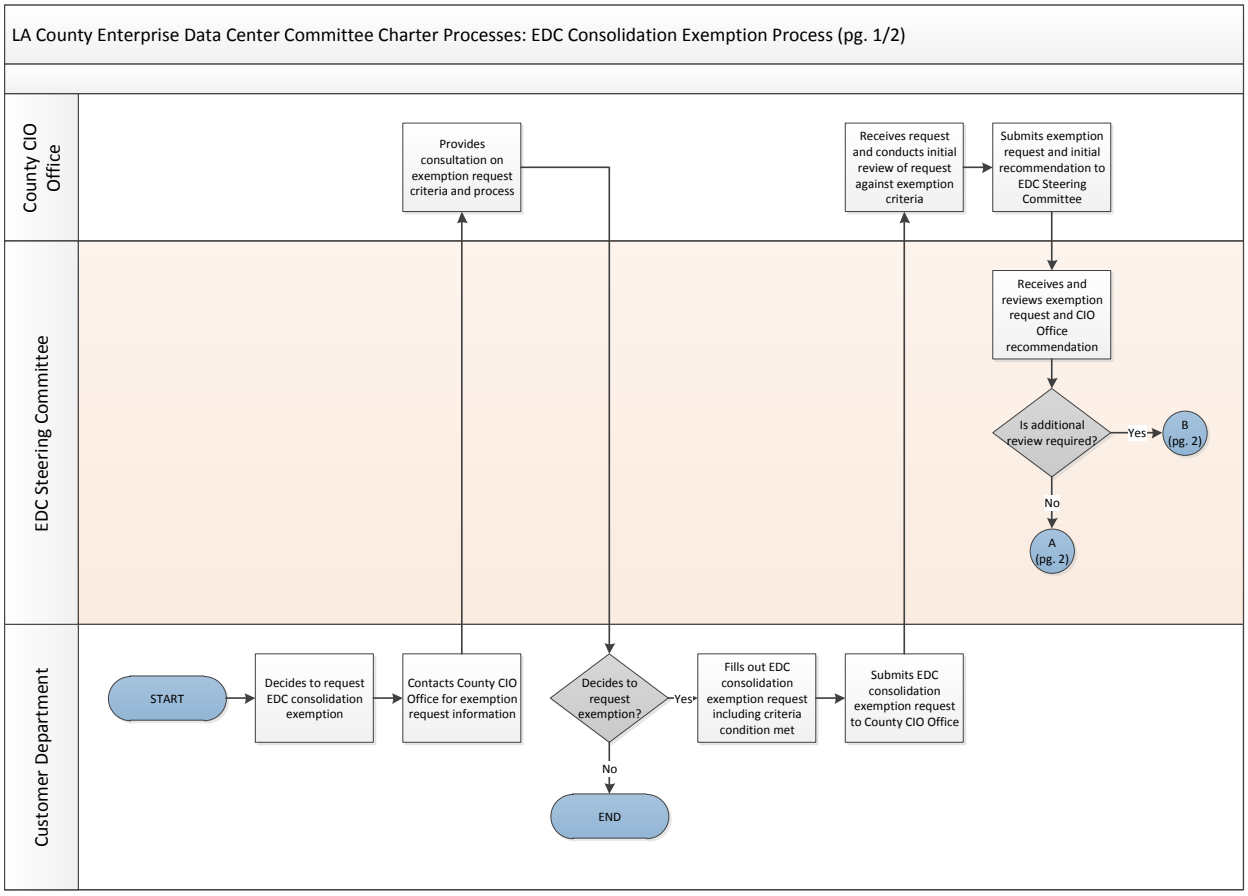
- Agreement between both the County CIO and ISD that the County's Enterprise Data Center is unable to meet specific departmental needs (i.e. service levels, regulatory requirements, technical requirements, etc.)
- A true "apples to apples" cost and risk comparison validated by the County CIO and reviewed with the EDC indicating that the County's Enterprise Data Centers are not the most effective use of County resources.

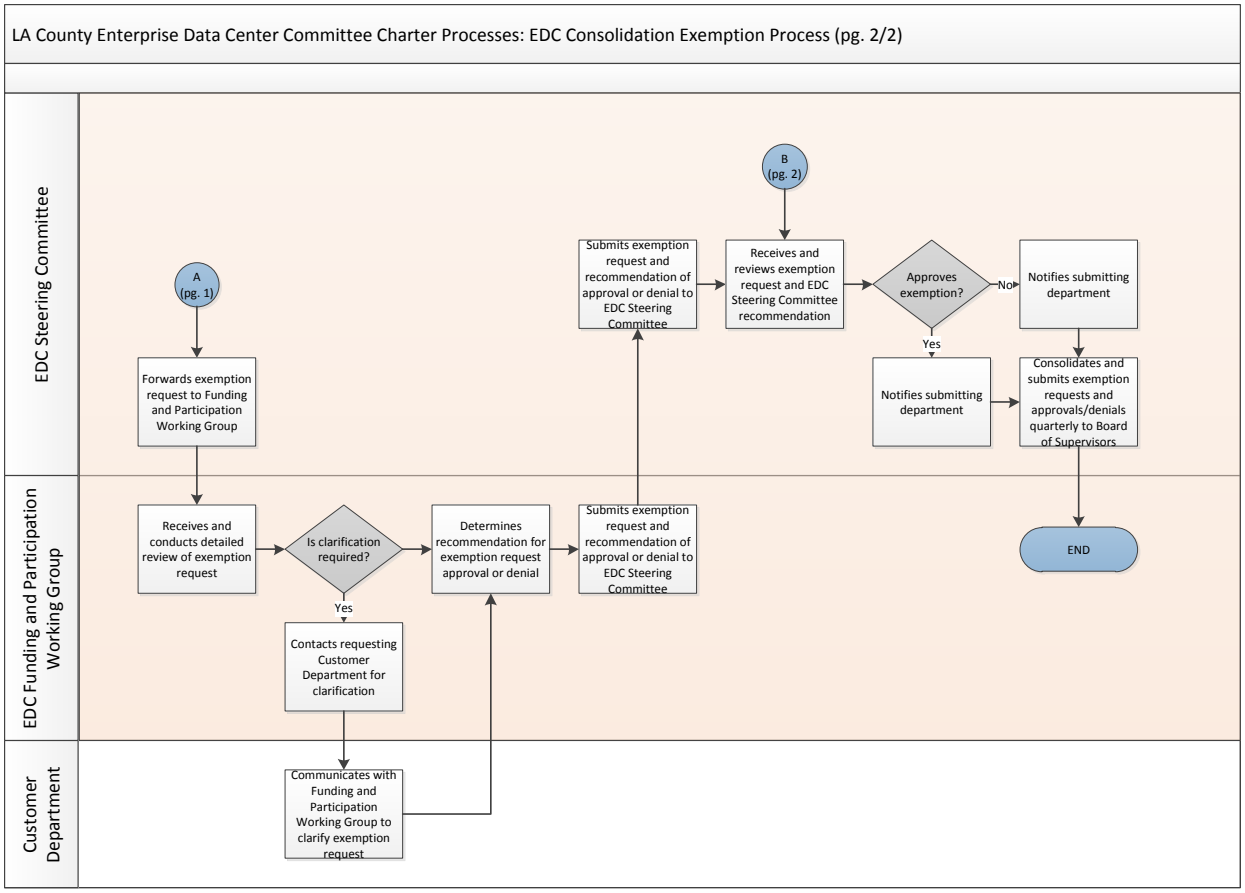
2. Roles and Responsibilities

It has been recommended to the Board that the CIO have delegated authority to approve exemptions from these consolidation mandates – including the authority to set exemption criteria. The County CIO will seek the advice of the EDC Steering Committee on all exemptions. The EDC Steering Committee will review each exemption request that is submitted to it and either accept or reject the request within 60 days. Any department which disagrees with a decision of the EDC Steering Committee or the County CIO is free to appeal directly to the Board of Supervisors.

The County CIO's office will be responsible both for identifying non-compliant equipment as part of their normal reviews of departmental IT purchases and for requiring the departments to have a plan for compliance.

3. Process





E. EDC Services, Service Levels, and Pricing Benchmark

1. Background and Relevant Mandates

The Board of Supervisors has mandated that all Customer Departments use the EDC and the virtualized shared infrastructure. The Board understands that this mandate removes the departments' ability to run their own data centers and limits their ability to place their IT data center assets in commercial third party data centers.

This benchmark is intended to ensure that mandated EDC usage continues to provide Customer Departments with competitive quality data center services and prices. The purpose of the benchmark is to perform a comparison to ensure that the breadth and quality services provided by the EDC are aligned with Department needs and that costs are continually optimized and reasonably aligned with those of other similar organizations or commercial third party data center providers.

Benchmarks will be conducted on an annual basis with results targeted for delivery in the month of February.

The scope of the services to be benchmarked will be limited to services provided by or from the EDC as defined as being within the scope of this governance process (See Section II.G of this document for a detailed list of these services.) and other services as mutually agreed to by the County CIO, the Director of ISD, the EDC Steering Committee, and the benchmarking firm

The dimensions of the above services to be benchmarked will include at a minimum:

- Customer satisfaction – Survey of key IT and business stakeholders in each customer organization regarding satisfaction with services delivered
- Services and prices – Comparison of ISD rates and service levels with rates and service levels from other public sector shared service organizations and from external service providers
- Cost – Use of industry standard cost models to compare ISD services pricing with either the service prices or internal delivery costs of peer organizations of comparable size, complexity, and mission. In this case, ISD prices charged to customer departments will be assumed to equate to ISD delivery costs unless ISD chooses to provide additional information or data.

Key metrics for comparison will include the following:

- Customer's level of satisfaction with ISD Service delivery
- Services and service levels offered
- ISD's price for the delivery of services

2. Roles and Responsibilities

The County CIO and the EDC Steering Committee – in consultation with the Director of ISD – will:

- Establish repeatable Benchmark methodology and process to include:
    - Customer satisfaction measurement
    - Service price comparison (E.g. comparison of ISD service prices with delivery prices or costs from other comparable public sector or shared services organizations and/or pricing from the commercial marketplace.)
- Determine the scope and focus of each annual benchmark
- Determine the criteria for selecting an independent third party benchmark firm

The County CIO – in consultation with the Director of ISD and the EDC Steering Committee – will contract with an independent third party to conduct an annual, benchmark of EDC services in order to compare services, service levels, and pricing with those provided by external vendors and peer organizations of similar size and complexity.

The County CIO – in consultation with the Director of ISD – will manage the benchmark process:

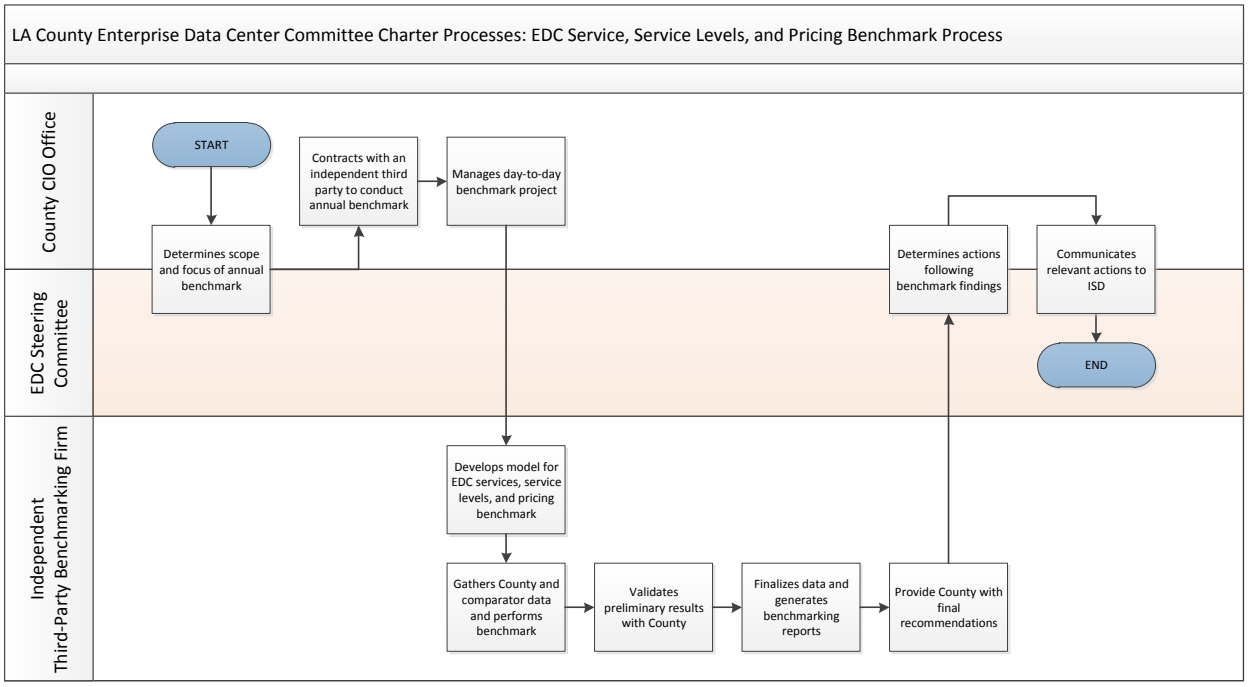
- Direct the day-to-day activities of the benchmark project team members
- Ensure appropriate data and personnel are made available to the independent third party benchmark firm in a timely and accurate manner
- Escalate any issues related to the execution of the benchmark effort to the Board of Supervisors or CEO as required
- Receive, review and summarize benchmark results and improvement recommendations with appropriate stakeholders including: the EDC Steering Committee, CIO Leadership Committee, and CIO Council
- Report the benchmarking results to the Board of Supervisors/CEO

The independent third party benchmarking firm will:

- Work with the County CIO to establish an appropriate model for comparing EDC service, service levels, and pricing with industry peers and best practices

- Work with the County CIO and ISD to gather required EDC service level and service price information and map the information to the agreed-upon comparison model
- Independently select a set of peers and industry best practices to which the EDC will be compared
- Perform required research and analysis to compare the EDC services, service levels, and pricing with the selected peers and best practices
- Validate the benchmark results with the County CIO and the Director of ISD, identifying anomalies, and making corrections to the comparisons or to the County-provided data as appropriate
- Finalize the data and generate appropriate benchmarking reports
- Review the reports with the appropriate stakeholders
- Create a summary report for the Board of Supervisors and review with the appropriate Board Members / Deputies
- Provide EDC SC and the Director of ISD with recommendations on service and cost/price optimization

3. Process



V. Recommendation Implementation Process

A. Formal Communication to Service Provider (ISD)

The Committee Chairperson is responsible for formally communicating any EDC Steering Committee recommendations or requests to ISD within three days of a Committee vote. All communications will include the Committee recommendation or request, Committee decision date, and the Committee's desired response process and timeline.

B. Required Service Provider Response

ISD is required to provide a formal, written response to any EDC Steering Committee recommendations or requests by seven days prior to the following Committee Meeting unless an alternate date is mutually agreed upon with the Committee.

ISD has three formal response options:

1) Providing an action plan and timeline for addressing the EDC Steering Committee's recommendations or request;
2) Submitting a request for additional clarification; or
3) Providing a suggested alternative to the recommendation or request.

ISD is required to send a representative to the following Committee Meeting to address the issue regardless of the response. The ISD representative is responsible for communicating with the Committee, obtaining any necessary clarifications, explaining ISD's plan or proposed alternative, and conducting negotiations.

C. EDC Steering Committee Response to Service Provider (ISD)

The EDC Steering Committee is required to respond to ISD requests for additional clarification or suggested alternatives. Clarifications may occur during Committee meetings or via hard copy or email correspondence. Discussions about suggested alternatives may occur during Committee meetings, but must also be formally documented in either hard or digital copy.

The timeline for continued clarifications and/or negotiations will be set by the Chair and clearly communicated to the Committee and ISD.

D. Appeal and/or Escalation Process

In the event that the EDC Steering Committee and ISD are unable to come to an agreement about the actions to be performed, either party may initiate an appeal and/or escalation process. Appeals will be submitted in writing to the CEO's office. Both parties will have an opportunity to speak to the CEO's office at an appropriate forum determined by the CEO. The Board will have the final authority over any issues brought to the Board by the EDC Steering Committee and ISD.

VI. Appendices

A. New Service Request Form

1. Form Intent

This form will be used by Customer Departments to request new EDC services. Forms will be completed and provided to the EDC Steering Committee prior to or at a committee meeting.

2. Form Content

- Requesting department(s)
- Date submitted
    - Notation of any previous discussions
- Business case for requested service
    - Narrative description of requested service including specific features and outcomes
    - Narrative about why the change is requested
    - How service is applicable to other departments
    - Impact of not making the change or creating the new service
    - How the service is currently being fulfilled (internally, vendor), including any paid fees
- Priority of request
    - High priority – should be addressed before the next meeting
    - Medium priority – should be addressed at the next meeting
    - Low priority – should be formally documented and addressed at some point in the future
- Importance of request
    - High importance – directly impacting Customer Departments important EDC services including major service or budget impacts
    - Medium importance – indirect or potential/future impact on Customer Departments EDC services, including budget impact
    - Low importance – other issues
- Tracking Number – for EDC SC use

B. Service Change Request Form

1. Form Intent

This form will be used by Customer Departments to request changes to existing EDC services. Forms will be completed and provided to the EDC Committee Chair for packaging and agendizing prior to a committee meeting.

2. Form Content

- Requesting department(s)
- Date submitted
- Notation of any previous discussions and previous escalations
- Requested actions for the EDC SC

- Change requested
    - Existing service
    - Narrative description of requested change including specific features and outcomes
    - Narrative about why the change is requested – new service request or remedying a deficiency
    - How change is applicable to other departments
    - Impact of not making the change or creating the new service
- Priority of request
    - High priority – should be addressed before the next meeting
    - Medium priority – should be addressed at the next meeting
    - Low priority – should be formally documented and addressed at some point in the future
- Importance of request
    - High importance – directly impacting Customer Departments important EDC services including major service or budget impacts
    - Medium importance – indirect or potential/future impact on Customer Departments EDC services, including budget impact
    - Low importance – other issues
- Tracking Number – for EDC SC use

C. Service Issue / Customer Issue Report

1. Form Intent

This form will be used by Customer Departments to report EDC service or other customer issues. Forms will be completed and provided to the EDC Committee Chair for packaging and agendizing prior to a committee meeting.

2. Form Content

- Reporting department(s)
- Date submitted
- Notation of any previous discussions and previous escalations
- Requested actions for the EDC SC
- Narrative description of service or customer issue
- Technical report of service issue if applicable
- Tracking Number – for EDC SC use

D. ISD's Operational Service Report

1. Form Intent

This form will be used by ISD to report service metrics to the EDC Committee Chair for packaging and agendizing prior to a committee meeting.

2. Form Content

The content of the Operational Service Report is being developed by ISD.

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RICHARD SANCHEZ
CHIEF INFORMATION OFFICER

February 17, 2016

We, as the County's departmental information technology leaders and members of the CIO Council Leadership Committee, individually and collectively endorse the new Enterprise Data Center Governance Framework and associated Governance Charter:

Richard Sanchez, CIO/Chair

Migell Acosta, Public Library

Amin Almuhajab, BOS Executive Office

Benny Chacko, Probation

Cecilia Custodio, DCFS

Bob Davis, Auditor-Controller

Dean Gialamas, Sheriff

Jeramy Gray, RR/CC

Jim Green, Public Health

Jesse Juarros, Public Works

Kevin Lynch, DHS

Murtaza Masood, DHR

Ron Moskowitz, TTC

Todd Pelkey, District Attorney

Michael Sylvester, DPSS

Dave Wesolik, ISD